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business and economic review

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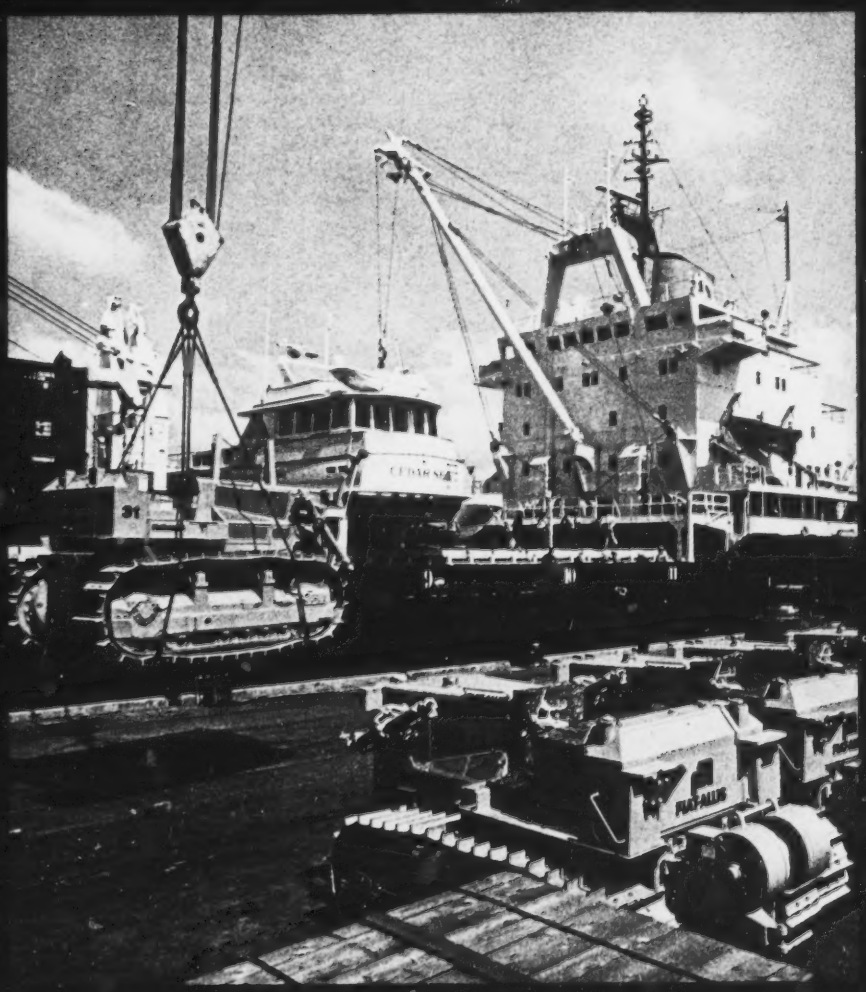

Volume XXVII, Number 2
November-December 1980

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by W. Don Welch

"Reaching Employees: Communications Is Caring"
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10 **Reaching Employees: Communications Is Caring.** Good management is based on good communications, and good communications, according to Marshall Doswell, Vice-President-Corporate Communications for Springs Mills, Inc., is "caring." Springs Mills has an enviable record in employee relations, and in this insightful article, the third offering in the *Business and Economic Review*'s industrial series, Doswell gives a number of ideas practiced at his company that explain why.

15 **Foreign Direct Investments in South Carolina: An Interview with Bayer AG's Gerhard Dittmar.** Dr. Robert J. Kühne, Director of USC's Master in International Business Studies Program, interviews Dr. Gerhard Dittmar of Bayer AG concerning what his company looks for before locating its operations in South Carolina. Dr. Dittmar, who is in charge of Bayer AG's North American operations, emphasizes the importance of the free market system as a reason for foreign investment in the United States.

19 **The Employer and Employment Laws,** a regular feature by James J. Baldwin, Partner in the law firm of Haynsworth, Baldwin, and Miles. In this month's column, **Recent Developments Expand EEOC Authority,** Baldwin warns management against the danger of EEOC "fishing expeditions" during an investigation.

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This month's cover: Road building machinery headed for the Mediterranean is loaded aboard a conventional cargo vessel. (SPA Photo.) See page 3 of this issue.

South Carolina State Ports Authority: The Palmetto State's Doorway to Foreign Trade

By W. Don Welch

During the 1970's, the Port of Charleston moved from relative obscurity to become a force to be reckoned with in the shipping world. This port now enjoys a position of leadership along the East Coast.

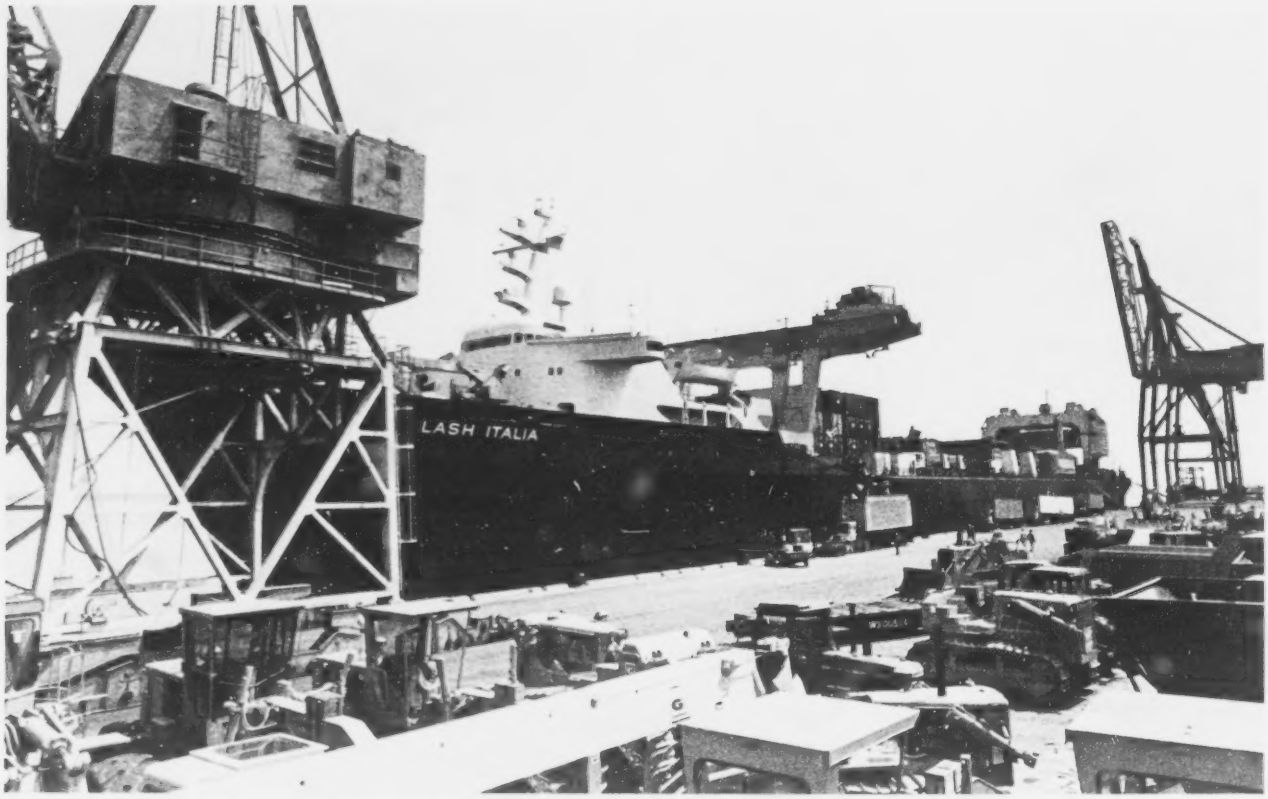
In the decade of the 1970's, the South Carolina State Ports Authority (SPA) dealt effectively with the challenge of technological change in the shipping industry and alterations in the trade patterns within its tributary area. Like the elements of the private business and industry community, the authority feels the effects of fluctuating economic conditions as it strives to serve as an effective catalyst for economic progress for the state.

The impressive growth attained by the state ports system results from many factors: productive dock workers, a dedicated professional staff, support by the state government, an expert maritime community, and a conscientious Governing Board of unusual economic insight. Total tonnage doubled from 2.2 million to 4.4 million tons for fiscal 1970 and 1979, respectively. Containerized cargoes have grown at an accelerated rate since 1970, reaching almost 1.9 million tons in 1979. Over 300,000 containers (20-foot equivalent units) per year are now handled through the Port of Charleston. Charleston is the ninth-ranked container port in the United States, according to 1979 statistics. Nearly $26 million has been invested by the state in container service capability at its terminals on the west bank of the Cooper River.

More than 58 percent of Charleston's general cargos move in containers. Projections indicate that containerized cargo will reach 70 percent in the immediate years ahead. Mechanization in cargo handling to accommodate substantial growth in cargo volume has required transformation of existing port facilities into thoroughly modern, efficient intermodal terminals. Without this modernization, growth would have been impossible.

W. Don Welch is Executive Director of the South Carolina State Ports Authority. A graduate of Oak Ridge Military Institute, he holds a B.A. Degree in Economics from the University of Florida and an M.S. Degree in Transportation from the University of Tennessee. Prior to joining the Ports Authority, Welch served as Instructor of Economics and Political Science at Oak Ridge Military Institute, Instructor of Transportation Economics and Traffic Management at the University of Tennessee, Manager of Transportation Research for Humble Oil and Refining Company, and Corporate General Manager of Traffic for U.S. Plywood-Champion Papers, Inc. He is a member of the Executive Committees of both the American Association of Port Authorities and the International Association of Ports and Harbors, First Vice-President of the American Association of Port Authorities, a Director and First Vice-President of the South Atlantic and Caribbean Ports Association, and a member of Governor Riley's Year of the Coast Advisory Board and the Marine Resources Advisory Committee of the Coastal Plains Commission. In 1974, he was named World Trade Man of the Year by the Propeller Club of the Port of Charleston, and in 1975 received that year's "Distinguished Service Award" of the Southern Growth Policies Board.

A new multipurpose vessel, the TELAMON, is headed up South Carolina's Cooper River under the twin bridges. She is designed to handle break-bulk and container cargo. Most conventional cargo vessels have found it necessary to be able to offer some container handling capabilities since containerization has become so popular. (SPA Photo)



Here heavy machinery is awaiting a ship to the Middle East, and a LASH ship is off-loading containers and barges at the same time. LASH is an acronym for LIGHTER ABOARD SHIP. Lighters, or barges, can be off-loaded into the water by the ship's own crane. The barges are then pushed to dock by a tugboat. LASH vessels often anchor in the harbor and just send their barges in to the dock. (SPA Photo)

The SPA has strengthened its financial stability and integrity. In fiscal 1970, the authority's revenues were $5,941,347. By fiscal 1979, that figure had climbed to $22,264,714. This record growth is especially significant to the State Ports Authority because it, like a private business, must operate on its revenues. For 18 years, the SPA has done this successfully without turning to the General Assembly for an operating subsidy. The SPA has met, and will continue to meet, this challenge, even though it shared in the overall business decline during the 1974-'75 recession and is facing along with everyone else the current economic downturn.

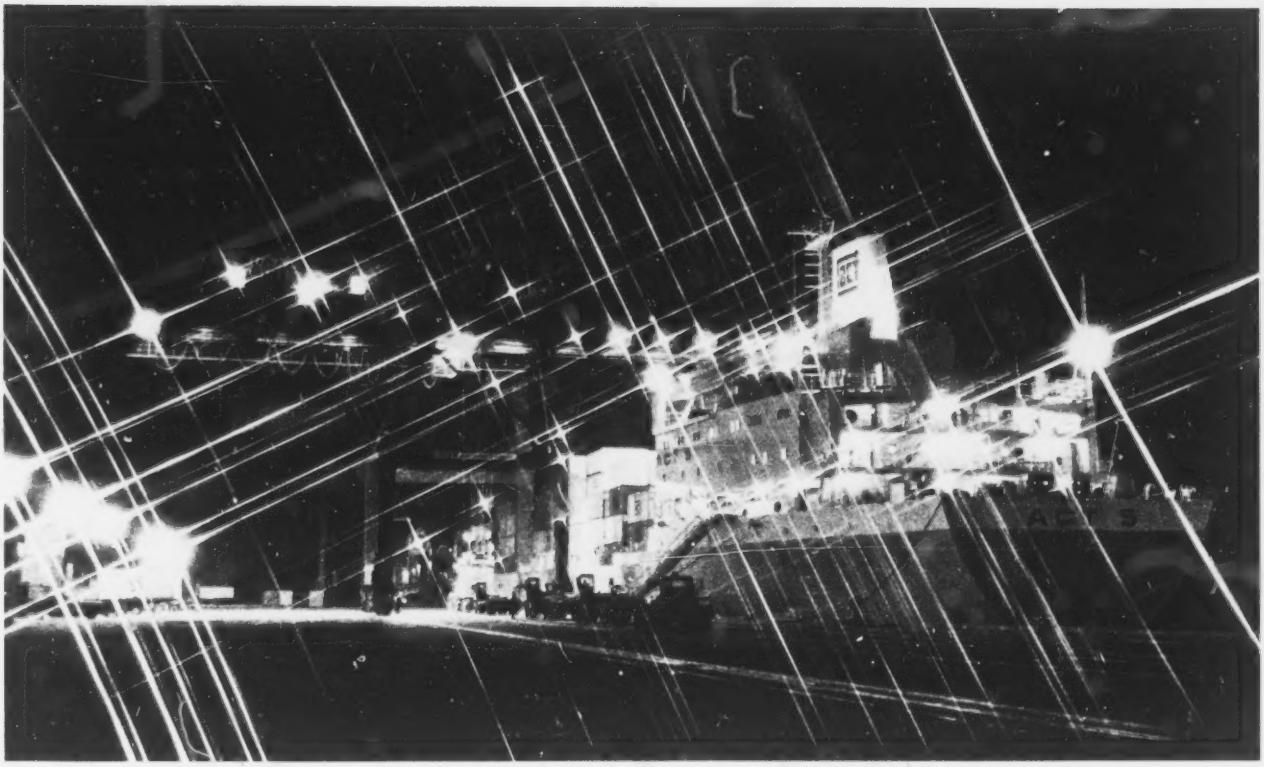
The South Carolina State Ports Authority operates as a self-supporting governmental enterprise, funding its annual operations from its own revenues — which makes it a unique agency of the state. The legislation under which the SPA operates makes it responsible for the development of South Carolina's ports system for the furtherance of commerce, agriculture, and industry.

The impact of the ports' business on commerce, agriculture, and industry extends throughout the state, from the coast to the Piedmont. Studies have shown that firms in 45 of the 46 counties use the port regularly. Over $3.17 billion in cargo moves through the port system annually.

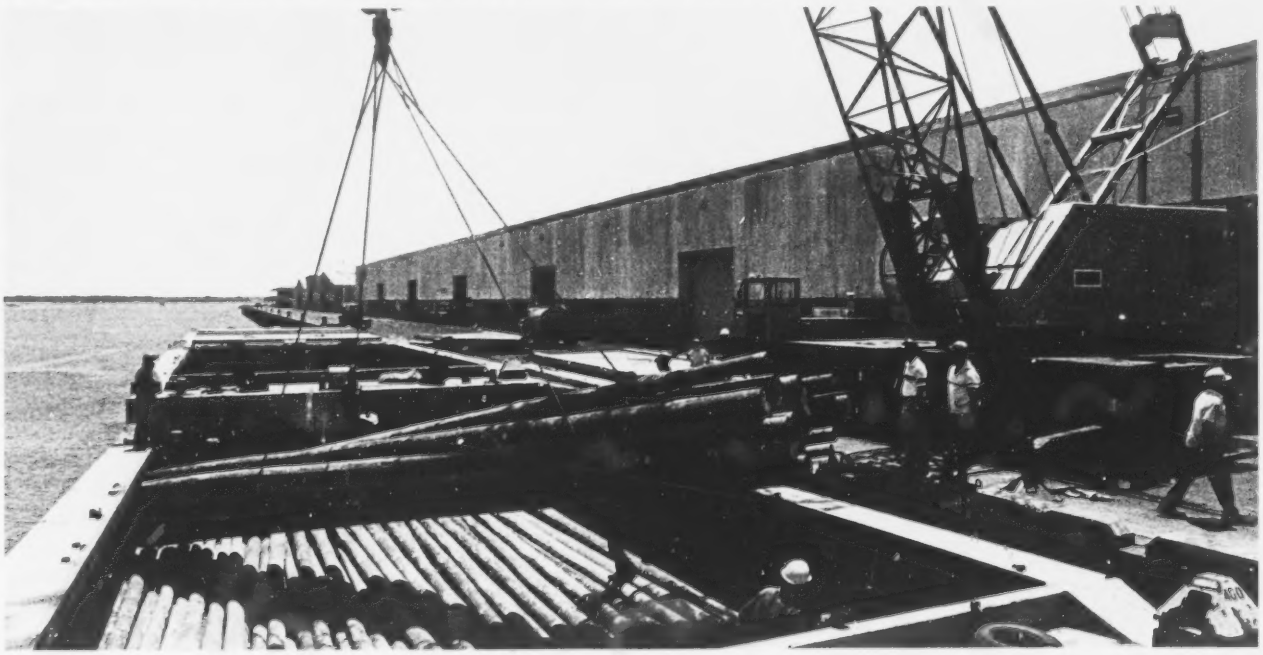
There is another strong development coming out of the decade — the emergence of Charleston as an export port. This has special importance because of the way it relates to the strength of the port economy and to national policy.

As the decade of the 1970's began, the trade of the State Ports Authority was heavily weighted toward imports. Tonnage in the 1969 fiscal year was 1.3 million tons import, and 815,342 tons export. After 10 years, at the end of the 1970's, this trade balance had reversed, with the volumes standing at 2.4 million tons exported and 1.8 million tons imported. Further, 70 percent of all container tonnage is export and 57 percent of the total tonnage at all SPA ports is export.

This shift resulted from a deliberate emphasis on exporting by the State Ports Authority in its



The Contract Marine Carrier ship ACT 5 loads and discharges containers at the North Charleston Terminal of the State Ports Authority. Container vessels are extremely expensive to operate, about $45,000 a day, and fast turnaround time is vital to them. The vessels are seldom at berth for more than 12 hours, working day and night to get back out to sea. The trucks line up to pick up their containers as fast as the specially-designed-and-built container cranes can unload them. The cranes now cost about $3 million apiece. The SPA has five and is building four more to move cargo as rapidly and efficiently as possible and speed ships on their way. (SPA Photo)



Treated pine poles are loaded in barges at the State Ports Authority's Union Pier Terminal in Charleston. These poles were treated at the Koppers Plant in Florence, South Carolina and are destined to become part of a rural electrification project in Bangladesh. (SPA Photo)

These big Huber road scrapers are being driven on board the vessel NEDLLOYD ROTTERDAM. The ROTTERDAM has a specially adapted stern ramp that unfolds in port so cargo can roll on or roll off, hence the nickname "ro-ro" for this type vessel. These scrapers were manufactured by ATO in South Carolina and rolled on the ship at the State Ports Authority's Columbus Street Terminal in Charleston and rolled off in Saudi Arabia. (SPA Photo)

trade development program. 1974 was the first year in which exports moved ahead of imports, and exports have stayed ahead every year since. The SPA received the President's "E" Award for excellence in exporting in acknowledgement of its contributions to the nation's economic good.

Currently, export tonnages for the 1980 fiscal year are running one million tons ahead of imports. That represents a 50 percent improvement over the previous year. About 60 percent of this trade originates or terminates entirely within South Carolina. It is important to note that 29 percent of the total value of all of South Carolina's agricultural production is exported, primarily through state port facilities.

University of South Carolina economists estimate the statewide economic impact of state ports operations at more than $1.3 billion per year, with a direct and indirect employment effect of 42,310 jobs. Of these jobs, 10,000 are in the greater Charleston area.

Nearly 2,000 South Carolina enterprises use the state ports regularly. These firms generate an estimated 30 percent of South Carolina's total personal income. South Carolina manufacturers save almost $12 million per year in overland transportation costs by shipping through state ports in preference to other ports.

To date, South Carolina has invested more than $98 million in port facilities. The current replacement value of these facilities is estimated at $250 million.

Return on investment to South Carolina taxpayers is estimated by University of South Carolina economists to be $12 million per year in the form of port induced state taxes. This is equivalent to more than $3 every year for every $1 of cost to the state for developing port facilities.

South Carolina's leading exports are textiles, chemicals, paper products, grain, forest products, woodpulp, clay and clay products, heavy equipment, and machinery. Major imports include semi-finished textile goods, iron and steel products, bananas, metallic ores, petroleum, plywood and veneers, and a variety of consumer goods.

Charleston and Georgetown have become major

ports of entry for imported hardwood products from the Far East, Africa, and South America. Most of this product goes to plywood and veneer processors in South Carolina and to furniture manufacturers in Georgia, South Carolina, and North Carolina.

Major new export opportunities have opened recently for Southern pine lumber. South Carolina producers are doing well in this business at present, with good prospects for future growth. Important markets for South Carolina-manufactured textile machinery also are opening up in Brazil.

Trade through South Carolina ports breaks down to about 50 percent with Europe, 30 percent with the Far East, and 20 percent with the remainder of the free world. According to 1973 estimates by the professional economists of Kaiser Engineers, SPA port volumes at Charleston were expected to reach 3.3 million tons by 1980 and 4.9 million by 1990. These tonnage levels were double and triple the port tonnage at the time of the study. It is important to note that the Port of Charleston had surpassed the Kaiser estimate for 1980 by 1978. Business is forecast to rise about 6 million tons annually near the turn of the century. This prediction is based on standard economic reference data that covers the "natural" economic tributary area of the Port of Charleston.

The 1979 calendar year hit a record high in cargo tonnage across all State Ports Authority facilities. The Port of Charleston facilities alone saw a 4.2 percent increase to 3,764,886 tons, continuing the expected trend. Containerized cargoes led the way, with an 8.5 percent increase. While these increases are respectable, and might even be considered glamorous in some ports, they actually reflect a levelling off of the growth rate recorded at Charleston during most of the 1970's and represent the challenge facing that port for the opening of the 1980's. For example, during 1978, the SPA Port of Charleston tonnage gain was 27.3 percent and its container growth was 30.8 percent. Unfortunately, this levelling off was expected. Early in 1979, the SPA identified three major factors which led it not to expect a repeat performance of the spectacular growth experienced in prior years.

First, there is an overall slackening of the growth rate of international trade due to worldwide economic uncertainties, inflation, and recessionary pressures. The continuing crisis in the Middle East has indeed had a dampening effect upon present and future economic expectations of virtually every industrialized country in the Western world. Most have responded with austerity programs of various kinds, which have had restrictive influences on the total volume of (non-oil) world trade. At the same time, many developing nations of the world have been forced to cut back, or curtail, many of their economic development projects because of the rising cost of energy. With larger and larger percentages of national resources allocated to paying for energy imports, less and

Fine mahogany and hardwoods are brought in from South America through the State Ports Authority terminal at Georgetown. The wood is then distributed to furniture manufacturers in both Carolinas and Georgia. (SPA Photo)

less is available for other trade items. This has a dampening effect on total world exchange of goods.

Second, there is increasing competition among all United States ports for available trade tonnages. In the South Atlantic range of ports, competition has intensified between Norfolk, Wilmington, Charleston, Savannah, and Florida ports. Savannah, especially, has moved forward rapidly in efforts to counter the recent surge of growth at Charleston. With a $64 million expansion program under way for some time, Savannah now has three modern, fully-equipped container berths, with a fourth under current planning. At the same time, the three major Gulf ports of Mobile, New Orleans, and Houston also have completed, or gotten under way, expansion projects in the hundreds of millions of dollars.

Third, and last, the ability of the SPA to provide for further significant growth at existing Port of Charleston facilities has been virtually exhausted. SPA terminals are now operating at 50 to 100 percent above standard rated capacities. In November 1978, construction began on the Wando, a major new terminal for the Port of Charleston. With $56 million available for the project, 3 new containership berths are being built at a site on the Wando River, only 16 miles from the open sea. In a later construction phase, 4 additional berths will be built. The Wando River location offers the potential to meet future demand for port services into the 1990's. Until the new terminal is completed, in the third quarter of 1981, the port is in a "holding pattern" and has very limited ability to respond to new business opportunities. In fact, the port has had to turn away 3 major new steamship services within the past year, because it simply lacked the space and facilities to accommodate them. It has also had to turn back thousands of tons of offered cargoes, which it simply could not handle at existing facilities. Conditions are not likely to improve materially until the Wando Terminal goes into operation.

The new Wando terminal will double the capacity of the Port of Charleston at a site that capitalizes on the Port of Charleston's prime advantage — easy access to the open ocean. Located only a dozen miles from the channel entrance buoy, this modern terminal will offer the most efficient cargo-handling service possible. It will use the most advanced technology and have the most efficient cargo-flow terminal designs. In size and capacity, the Wando facility will rival any terminal on the East Coast.

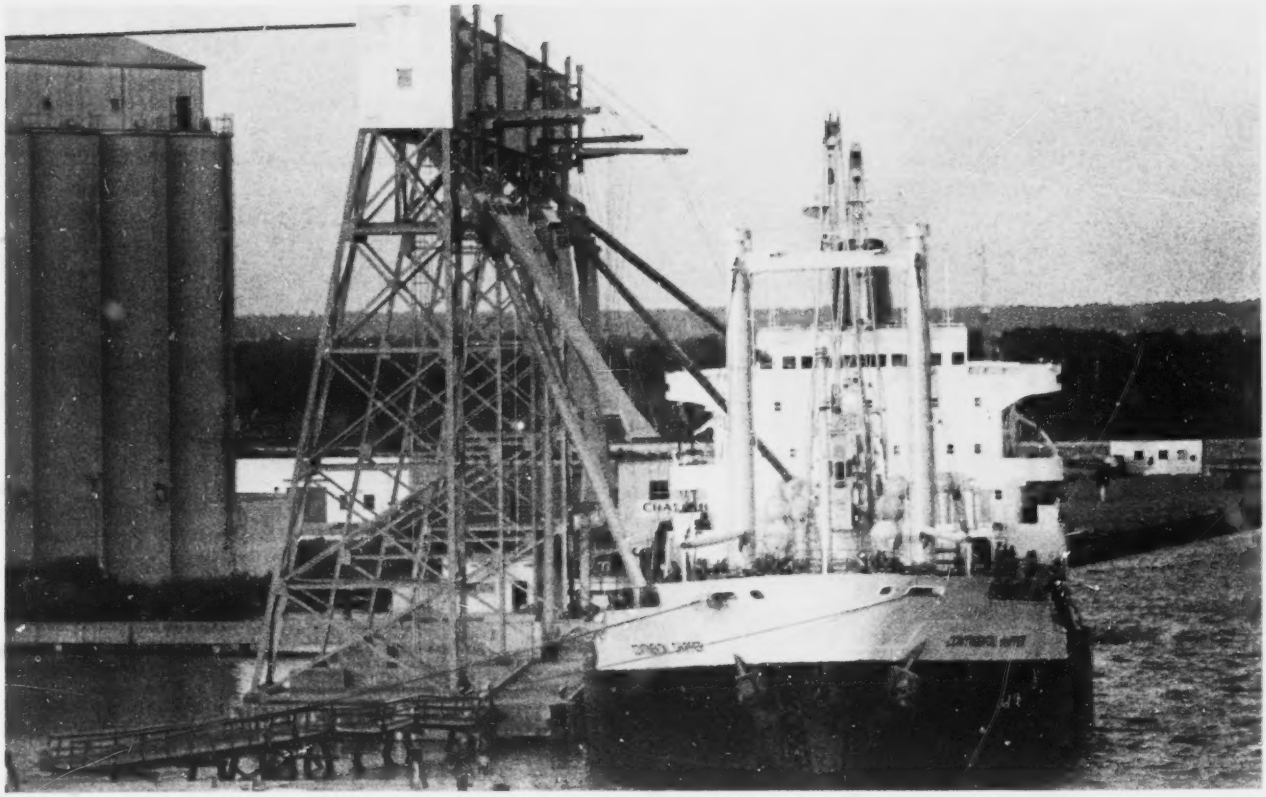
The Wando River port expansion, at full development, will provide additional transportation cost savings to South Carolina shippers of $5.6 million per year, direct port-related employment of about 10,000 jobs (20,000 statewide), a total economic impact of $742.6 million per year, and total port-induced state taxes of approximately $6.6 million per year.

In addition to the Wando Project, several related activities will have an impact on the future of the State Ports Authority in the 1980's and beyond. The Charleston Harbor Deepening Study authorized by Congress in 1976 is now complete, and has moved into advanced engineering and design. In the next few years, Charleston's channels will be deepened to 40 feet, capable of handling the bulk of the world's general cargo shipping. This project has been tied to the Santee-Cooper Rediversion Project. The Federal Government would not deepen the harbor without assurances that the silt being brought into the Cooper River and Charleston Harbor by the Santee would be lessened by the rediversion of the Santee waters to their original channel. The Rediversion Project is now well under way by the Corps of Engineers and is expected to be completed by 1984, thus clearing the way for the harbor deepening.

At the Port of Georgetown, the U.S. Army Corps of Engineers is conducting a study to determine the economic feasibility of providing a 35-foot channel to the lower harbor area. The study includes a detailed environmental analysis of available site alternatives. The economy of Georgetown is very closely tied to its port, and business support is staunch.

At the Port of Port Royal, $3 million in state funds were approved this year for beginning construction of a major Seafood Industrial Park. The SPA has selected an architectural and engineering consultant to develop the detailed plans for this facility. The Seafood Park will help South Carolina fishermen meet Federal regulations and give them the opportunity to be competitive in United States and world markets.

In addition to measurable areas, such as cargo volume and revenues, the SPA has progressed also in intangible ways — especially in its reputation throughout the world for efficient and economical cargo handling. Gauging this quality is difficult, but it is surely reflected in the growing list of customers and shipping lines at the Ports of Charleston, Georgetown, and Port Royal. The State Ports Authority is already preparing the port facilities of South Carolina to lead the South into the 21st century.



The grain elevator leased by the State Ports Authority to the South Carolina Farm Bureau Marketing Association is located at the North Charleston Terminal. The elevator holds 1.5 million bushels and rapid turnover makes it an invaluable asset to the farmers of the state. (SPA Photo)

The Ports Authority Board consists of nine members, appointed by the Governor of South Carolina and confirmed by the State Senate. The members are appointed for terms of 7 years. Current members are W.W. Johnson, Columbia; Ralph M. Hendricks, Charleston; James B. Moore, Georgetown; Sumner Pingree, Sheldon; John T. Welch, Jr., Charleston; Alex Kiriakides, Jr., Greenville; Robert C. Anderson, Clinton; Robert G. Clawson, Hartsville; W. Melvin Brown, Charleston; Joseph P. Riley, Sr., Charleston (Member Emeritus); and Milton A. Pearlstine, Charleston (Member Emeritus).

The South Carolina State Ports Authority is headed by an Executive Director, and divided into five divisions: Finance, Trade Development, Harbor Services, Operations, and Management Services. The SPA employs 628 persons full time, with 71 percent of its total force engaged in Operations.

The 1979-'80 operating budget of $21.9 million is entirely sustained through earnings. For 18 years, the South Carolina State Ports Authority has received no appropriations from the state for operating or administrative purposes.

The authority has trade development offices in Greenville, New York, Chicago, Tokyo, Brussels, Sidney, and Hong Kong. It has ocean terminals in Charleston, Georgetown, and Port Royal.

SPA terminals at Charleston handle more than 4 million tons of general and dry bulk cargo per year. The Port of Charleston ranks 12th among all United States ports in value of trade, and 9th in volume of containerized cargoes handled.

The State Ports Authority currently owns 16 ships berths, backed up by more than 2 million square feet of enclosed storage area. Charleson has 10 berths; Georgetown, 2 berths; and Port Royal, 1. There are also 3 additional container berths and 1 break-bulk berth currently under construction at Charleston.

The 2 berths at Georgetown include a public general cargo berth and a steel handling berth leased to the Georgetown Steel Company. The Port Royal berth is leased to a private terminal operator.

The SPA has a modern freezer plant of 600,000 cubic feet at its North Charleston Terminal. Imported meats, mostly from Australia and New Zealand, are accommodated, as well as New Zealand dairy products. New Zealand cream has been increasing dramatically: 4 million pounds arrived between October 1979 and February 1980.

The export grain elevator at North Charleston has a storage capacity of 1.5 million bushels. It handled 380,665 tons of corn, soybeans, and wheat in calendar year 1979.

The State Ports Authority is served by 2 major railroads, Southern Railway and Seaboard Coast Line, and by 61 motor lines. Rail traffic involves approximately 15,000 rail cars per year, while truck movements average about 800 per working day.

The Sea-Land Service, Seatrain Lines, United States Lines, Farrell Lines, Maersk Line, Italian Line, Evergreen Line, ACT/PACE Line, Orient Overseas Container Line, Navieras de Puerto Rico, Columbus Line, Contract Marine Carriers, United Arab Shipping Line, Central Gulf Line, and Marfret Container Lines (containership lines) call regularly at the port. The total profile of ocean service

covers 56 foreign countries. More than 1,500 ships and 700 barges per year, representing 88 steamship companies, call at state port terminals. This figure does not include tankers and dry bulk carriers that berth at private terminals. Port operations are supported by 9 cargo and marine surveyors, 7 ship suppliers, 4 dredging companies, 25 broker/forwarder businesses, 34 steamship agents, 9 shipping line offices, 17 stevedoring firms, 7 tugboat operators, 12 general cargo warehousing companies, 17 container leasing and/or repair depot operations, and 5 foreign consular representatives.

The authority interacts significantly with various United States government agencies, including the Army Corps of Engineers, for channel maintenance; the Coast Guard, for safety; the Federal Maritime Commission, for price regulation; and the Customs Service. Various other Federal agencies are involved in port affairs from time-to-time, such as OSHA, the Federal Maritime Administration, the EPA, the Department of the Interior, and the Department of Commerce.

Interface also is maintained with state government agencies, such as the S.C. State Development Board, the Departments of Agriculture and Health and Environmental Control, the Water Resources Commission, the Wildlife and Marine Resources Department, the Highway Department, the Budget and Control Board, and the Coastal Council.

Reaching Employees: Communications Is Caring

By Marshall Doswell

EDITOR'S NOTE: The role of colleges and universities in educating individuals for positions of leadership is relatively well-known. Sometimes overlooked, however, are the internal programs of businesses and other organizations to continue the educational process for their employees. This article is the third in a series designed to give a familiarity with the recruitment, training, and communications programs in the various types of industries, i.e., banking, textiles, the electrical industry, etc. We are specifically interested in such topics as productivity, absentee control, discipline, cost control, quality control, scrap reduction, etc. If you have programs on these topics you would like others to know about, please contact us so we can arrange to have a representative talk with you about possible articles on them.

Some years ago, three executives of Springs Mills decided to enjoy a long weekend of golf in the mountains of North Carolina. To ease their consciences, they took along their wives.

Marshall Doswell is Vice-President—Corporate Communications for Springs Mills, Inc. Springs, with corporate headquarters in Fort Mill, South Carolina, is a major producer of finished fabrics, home-furnishing products, and frozen foods, with annual sales exceeding $800 million. The firm has 22,500 employees and 44 plants in 12 states, France, and Mexico. Doswell has headed Springs' communications and public relations functions since 1962. Prior to that, he was a newspaperman for 15 years. A former National Secretary of the Public Relations Society of America, Doswell is a graduate of Hampden-Sidney College and the Executive Program of the University of North Carolina at Chapel Hill.

After two days of golf, the men took a break and treated their wives to a scenic mountain drive. They followed a winding road to the top of a high ridge and stopped at a lookout point to drink in the view.

As they gazed into the distance, one of the men said: "Wouldn't it be great to hit a golf ball from this height."

Seconds later he hauled his driver and a bag of practice balls from the trunk of his car. Each man took his turn hitting balls from the lookout point. The balls would arch high into space, then drop to the mountainside far below.

The men noticed that most of the balls were falling in a pattern near a large dead tree beside the road they had traveled. They decided to stop on the way down to see if they could find some of the balls.

Shortly afterward, they parked their car on the roadside near the dead tree and began combing the lower side of the road. As they searched, a car rounded the turn just below them, slowed to a crawl, then stopped. The driver rolled down his window and asked: "What's going on?"

One of the men straightened up and yelled: "We're looking for golf balls."

The old gentleman behind the wheel was silent for a moment. Then his face turned red with irritation and he growled to his wife, "If there's anything I can't stand, it's a smart aleck." He roared away in a cloud of faulty communication.

Springs Mills, with corporate headquarters in Fort Mill, South Carolina, is a major manufacturer of finished fabrics, home furnishings products, and frozen foods. Founded in Fort Mill in 1887, Springs employs 22,500 people and has 44 plants in 12 states, France, and Mexico. Sales in 1979 were $827.9 million.

Sometimes the communicator misses the mark although he tells it exactly the way it is.

Point of view is also important.

They tell a story in Japan about a house guest. The guest was examining a scroll that depicted Mount Fuji.

"It's a fine drawing," he said to his host. "We climbed Mount Fuji recently and it looked just like this."

"Could you see my house from the mountain?" asked the host.

"Why, no," said the guest. "I could never have seen your house from the mountain."

"That's strange," said the host. "I can see the mountain quite clearly from the house."

This story illustrates a classic problem. Communication is heavily affected by the points of view of both the sender and the receiver.

In the typical corporation, management people are high up on the mountain, looking out at the broad picture but missing the perspective of the individual employee down in the valley. Employees, on the other hand, look up and see the overall profile of the mountain but do not really see the management people standing at the summit.

Communicating successfully is difficult, even when you try hard. It is especially difficult if you are somewhere up there on the mountain and the audience is somewhere far below.

The farther you are from the audience, the tougher it is to communicate. The gap in perspective is so large.

The questions for corporate management are: "Are we communicating with employees?" "Are we reaching them?"

Certainly management are reaching them. Communicating is not something a person decides to do or not to do. People communicate every day, whether they want to or not.

Management communicate through the attitudes they project, the actions they take, the actions they do not take, the things they say, the things they do not say, and the motives their employees perceive as they observe them. And — observe them they do, very closely.

Over the long haul, employees have management figured within a gnat's eyelash. They know them by their track records.

Management, then, are reaching them, but they may not like some of the messages management are communicating. If only management could see themselves as their employees see them.

One of the clichés in corporate annual reports is a statement that goes something like this: "We're a people oriented company. Our employees are our most important asset."

This statement appears year after year, in various forms, in the annual reports of many different kinds of companies. It's a serious statement. Management recognizes that any successful enterprise must have a few basics: adequate capital; efficient production facilities; products or services that fill a need or want; satisfied customers; and dependable, productive employees. These basics are vital to the long-range health of the company. Successful companies deal with them in a superior way.

Some years ago, the President of Springs textile organization was the brilliant, multifaceted Elliott White Springs. In the forties and fifties he

H W. Close, Chairman of Springs Mills, is a long-time advocate of the need for better communications in business. He has headed the vast Springs organization since 1959.

created an advertising series that is now a textbook case. He wrote the copy himself. The ads were amusing, provocative, and risque, and they delivered messages with a skill that has stood the test of time.

Ellio't Springs reached his audiences with humor, but his messages were serious. He knew the importance of protecting one's assets, just as management people know that successful asset management in today's world is essential to corporate survival.

If management mean what they say when they declare that their employees are their most important asset, then they had better be running the company in such a way that they demonstrate that conviction. Effective management of employees can be the difference between the success and failure of a company.

In this author's judgment, the bottom line in successful communication with employees can be stated in just one word — **caring.** Employees know whether or not management care, and they know how much management care. Management tell them in all sorts of ways. If management convince them that they care, the company will benefit.

Is this bleeding heart stuff? Not on your life. This is hard-nosed practicality. Smart management know the value of good employees and do an outstanding job of recruiting, training, managing, and rewarding them. Smart management give a lot — and expect a lot in return.

Successful communication is a critical ingredient in the mix. To attract capital, companies work hard at the job of communicating with the financial community. Management know that good results command attention. Smart management know that good results command even more attention if they are communicated well.

To market successfully, a company must have good products or services and satisfied customers who look upon the company as a dependable resource. Alert management work hard to build strong relationships with customers, based upon quality, service, and dependability.

To produce the quality products or services that will compete successfully in the marketplace, a company must have good employees with pride in their work and pride in their company. Smart companies know that employee attitudes, skills, and productivity are critical, and smart management work hard to build strong, positive relations with employees. Smart management know that it is poor business to do as lit le as possible for any of the company's audiences, whether they be shareholders, suppliers, customers, employees, or community residents.

Companies that prosper over the long haul generally do more than they **have** to do. They take pride in being better than the crowd. They value all of their business relationships. They outperform the competition. They are led by managers who are determined to be winners.

The business world has its share of skinflint managers. They deliver as little as possible. They get by with the barest minimum at every turn. They accept progress grudgingly. They make improvements only when forced to do so by competition or government regulation. Oddly enough, they seem to think that nobody notices.

Generally, skinflint managers do not prosper over the long haul, nor do their organizations. Investors, suppliers, customers, and employees learn by experience that this type of manager is more interested in getting maximum profits in the short term than in building durable relationships based upon quality, service, and integrity.

Companies earn their reputations. Customers,

Bulletin boards, posters, plant newsletters, a company newspaper, and a magazine for managers are essential elements of the employee communications program at Springs Mills.

employees, and all of the other audiences learn fairly quickly whether or not a company's management really care about the quality of a company's relationships.

As managers, management attach a good deal of importance to employee attitudes and spend a good deal of money on employee attitude surveys. Such surveys can be quite valuable.

It might be just as valuable if management attached a similar importance to management attitudes. Perhaps it would pay them to invest in periodic **management** attitude surveys. The findings might surprise them. The attitudes of the people on the mountain are just as important as the attitudes of the people down in the valley. Both need to be examined regularly. If management want to communicate with employees successfully, they have to care about them and let them know it in no uncertain terms.

In the play "Harvey," the central figure is a gentle, lovable man named Elwood P. Dowd. His almost constant companion is a six-foot rabbit that only Elwood can see. Elwood notices that people exchange a great deal of polite but meaningless conversation, such as "How are you?" and "Why don't you come to see us?" Whenever someone says to Elwood, "You must come to see us," Elwood whips out a little notebook and a pencil and says, "When?" He notices that no one ever says when.

A lot of companies are like that, too. In effect, they never say when. They mean well, just as Elwood's friends mean well. They say the right things. They say "our employees are our most important assets." When they do, their employees whip out their mental notebooks and say, "When?"

How can management demonstrate that their employees are their most important asset? The list of ways is long and varied. Some companies do better than others. Indeed, some companies do very well. When human relationships are concerned, however, there will always be room for improvement. In the paragraphs that follow, a number of suggestions are discussed.

1. Management can do everything possible to recognize and respect the dignity of their employees. This means such simple and obvious things as paving the parking lots, installing lights in the parking lots, and hiring security guards to provide for employee safety and to prevent thefts.

2. Management can provide the best possible working conditions. This means they can do such simple and obvious things as seeing to it that the work areas are clean, well lighted, and freshly painted. They can make sure that the rest rooms are attractive and well maintained. They can also make certain that there are comfortable rest areas for smokers and nonsmokers.

3. Management can install in-plant refrigeration. This cost can be justified on the basis that it assures employees of reasonably comfortable working conditions.

4. Management can insist that their employees have adequate break time and meal periods. This should be done regardless of the production job involved.

5. Management can do everything possible to make improvements in production areas. This should be a concern, not because of government requirements but because management have

a genuine interest in, and concern for, the health of their employees.

6. Management can attach great importance to the safety of their employees. Again, this should not be done because the company doesn't want its workmen's compensation payments to rise, but because management have a real interest in the safety of their employees.

7. Management can provide a fool-proof system that enables any employee, hourly or salaried, to ask a question and get an answer on a completely confidential basis. Management can also provide a foolproof system that enables any employee to register a complaint and get appropriate action on a completely confidential basis, without any possibility of reprisal.

8. Management can listen to employees very carefully. Management can encourage employees to state their views, and can listen with open minds and an attitude that says, "We can learn something important here, if we just listen well." After management listen, they can respond in a positive way wherever possible.

9. Management can encourage employees to improve themselves. They make training and personal improvement programs available. They can make it easy for people to grow.

10. Management can take leadership responsibility for the environment in which their employees and their employees' families live. They can show concern for the plant and office communities. They can become involved and help assure that the plant and office communities provide good schools, good roads, good government, good recreation, and all of the other things employees and their families ought to have.

11. Management can do everything possible to make the work area attractive. They can landscape the plant areas, put up attractive signs, and brighten the interiors of their facilities.

12. Management can pay the best wages their profits will permit. They can take pride in providing wage leadership in their industry. They can demonstrate desire, not reluctance.

13. Management can urge their employees to work efficiently and to increase their productivity in order to strengthen their companies. When they do, and when profits go up as a result, they can share some of the higher profits with their employees.

Direct face-to-face communications in training employees and in supervising them is essential to building strong, positive relations with employees.

14. Management can look at their fringe benefits packages very carefully. They can make every effort to improve such fringes as pension programs, health and life insurance programs, and holiday and vacation schedules.

15. Management can recognize the importance of time away from the job and can encourage their employees to take their vacations. They can make it easy for them to get their vacations.

16. Management can anticipate the needs of their employees. Then, they can work hard to meet those needs.

17. Management can meet the information needs of their employees in a genuine way. They can level with them. They can tell them the whole story.

18. Management can look at the work force and discover an untapped gold mine of human resources. They can see people with ideas, people with sensible suggestions that can save them money and add to company profits. Recognizing this, they can install suggestion

systems that reward creative thinking, systems that give employees real incentives for using their ingenuity.

If management are doing these things, then they are communicating with their employees in the most meaningful ways available. In the process, they are protecting their most valuable asset and reaping dividends at the same time. If management are not doing these things, then they are doing a poor job of protecting their assets and are paying a heavy price for their omissions.

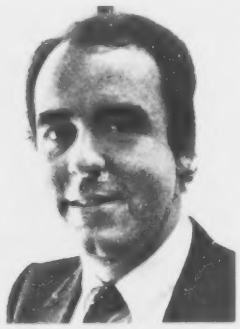
Foreign Direct Investments in South Carolina: An Interview with Bayer AG's Gerhard Dittmar

By Robert J. Kühne

INTRODUCTION

South Carolina has been a recognized leader in the field of attracting foreign investment to the United States for some years. Wooing potential industry to the Palmetto State is a responsibility assigned to the S.C. State Development Board. The figures indicate that they have indeed been successful.

Total foreign investment in South Carolina is now approximately $3 billion; 35,000 direct jobs; and, due to the high technology and higher salaries, about 100,000 indirect jobs. During the 1970's, this investment represented approximately 10 percent of the total new and expanded industrial investment in South Carolina. During 1979 and year-to-date, the figure grew to 25-30 percent of total new and expanded industrial investments.



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In August 1980, the S.C. State Development Board listed 148 South Carolina establishments with foreign affiliations, from 14 countries. These investments include companies with such world famous names as Michelin, Hoechst, Bayer, BASF, Bowater, Dunlop, Lucas, Phillips, Ciba-Geig (Charles S. Tanner, Co.), and Sandoz.

In an ongoing effort to attract more foreign direct investment, the S.C. State Development Board continues to sponsor investment and trade missions. The most recent is a mission to the Far East, including Japan, Hong Kong, and Taiwan, this fall. Other efforts include an office in Brussels and representatives in Tokyo and Hong Kong.

Foreign executives cite a variety of reasons for moving to the United States. These include the following.

1. It is a tremendous, mouthwatering market and companies want to be part of it.
2. The falling value of the dollar relative to other currencies and rapid inflation abroad make producing in the United States relatively inexpensive.
3. The political stability in the United States versus the instability in Europe, with the threats of increased Communism, nationalization, and government controls, make this country a much safer place to operate a business.
4. The availability of ample land and raw materials is most attractive.
5. The low degree of unionization and the right-to-work laws, especially in the South, are definite enticements.

From left to right: Dr. Robert J. Kühne, S.C. Governor Richard W. Riley, Dr. Gerhard Dittmar, and Max Heller, Chairman of the S.C. State Development Board

Recently, the West German-based chemical firm Bayer AG announced that it expects to invest more than $1 billion in the United States over the next few years. To learn more about this company and its United States investment decisions, this author interviewed Dr. Gerhard Dittmar, a Member of Bayer AG's Board of Management and Chairman of Bayer AG's Investment Committee. This interview with Dr. Dittmar, who is also in charge of all of Bayer AG's North American operations, follows.

INTERVIEW

Q. Dr. Dittmar, what is the magnitude of Bayer AG investments in the United States?

A. In the year 1979, total net sales of the Bayer-affiliated companies in the United States reached $2.3 billion. This sounds tremendous but it means only a 1.6 percent market share with regard to total sales of the chemical industry in the United States. For Bayer AG, it represented about 16 percent of its worldwide sales of roughly 15 billion U.S. dollars at the current exchange rate. For comparison: DuPont announced worldwide sales of $12.6 billion for the same year. Our American subsidiaries provide about 19,000 jobs in the United States out of the total of 180,000 jobs provided by Bayer AG around the globe. Our total assets in the United States exceed $1.9 billion.

Q. How does Bayer-Aspirin relate to Bayer AG?

A. As a result of the two World Wars, Bayer lost its earlier interests in the United States; its trademark, the Bayer cross; and its company name, Bayer. These were confiscated by the United States government and sold by the Alien Property Custodian. This also prevents our United States affiliates from being associated with the Bayer family name. For the same reason, the Bayer Aspirin sold in this country, although one of our basic inventions of the 19th century, is not our product.

Q. Where are Bayer AG's current operations in South Carolina?

A. Our relationship to South Carolina goes back to the sixties when we bought 1,200 acres in Bushy Park, just north of Charleston, along the Cooper River in Berkeley County, and set up facilities there for two of our affiliates, Mobay and Haarmann & Reimer Corporation. Another Mobay plant is in Rock Hill. Up to now, we have invested over $80 million in South Carolina. Additional facilities for about $20 million are under construction. Today we provide jobs for 600 people in South Carolina.

Q. What attracts the European corporations so strongly to the United States?

A. The considerations that guide this decision-making process certainly differ, but let me highlight the long-term reasons for us, at Bayer AG, for as extensive an engagement as we have had, and expect to continue to have, in the United States.

The most obvious factor supporting investment in the United States is the tremendous size, magnitude, and productivity of the American market. The United States, with its large domestic market, is, for those of us from other countries with a background in international commerce, like a continent having a highly developed substructure with its states comprising many different countries, or markets. Compared with the United States market, the relatively small German domestic market, and even the larger Common Market of the European Communities, are not big enough to recover today's increasing costs for research and innovation within a reasonable time. Let me just mention that the development of a new drug today can cost up to $30 or 40 million, and requires 8 to 10 years before a return is realized. A new agricultural chemical costs nearly as much.

Our home market is by far not large enough to provide the additional sales necessary to cover the cost of research and technology. As you can imagine, participation in foreign markets is only a logical consequence. As the largest and most important market, the United States is obviously the most attractive place for investment. This trend is shown by the fact that each of the last years,

Office complex at the Dyestuff Division plant of Mobay Chemical Corporation, Bushy Park, South Carolina

including 1979, has set another record for investment by foreign companies in the United States.

At least as important as the magnitude of the United States market is the innovation potential of this market, with its high standard of technology, know-how, and marketing. It is an absolute necessity for every company being active in world markets to participate and compete in this most sophisticated market. Competing actively in this challenging environment, however, and getting its impulses is only possible by participating through fully integrated facilities located here, including research, development, production, and marketing. Once a firm is established in the dynamic United States market, it continuously has the environment for proving and improving its competitiveness. This very environment is one that permanently stimulates and demands research, innovation, and new technology. Not only are applications provided for the products of our research in this highly developed market, but many of the ideas for better materials and improved production methods are generated here.

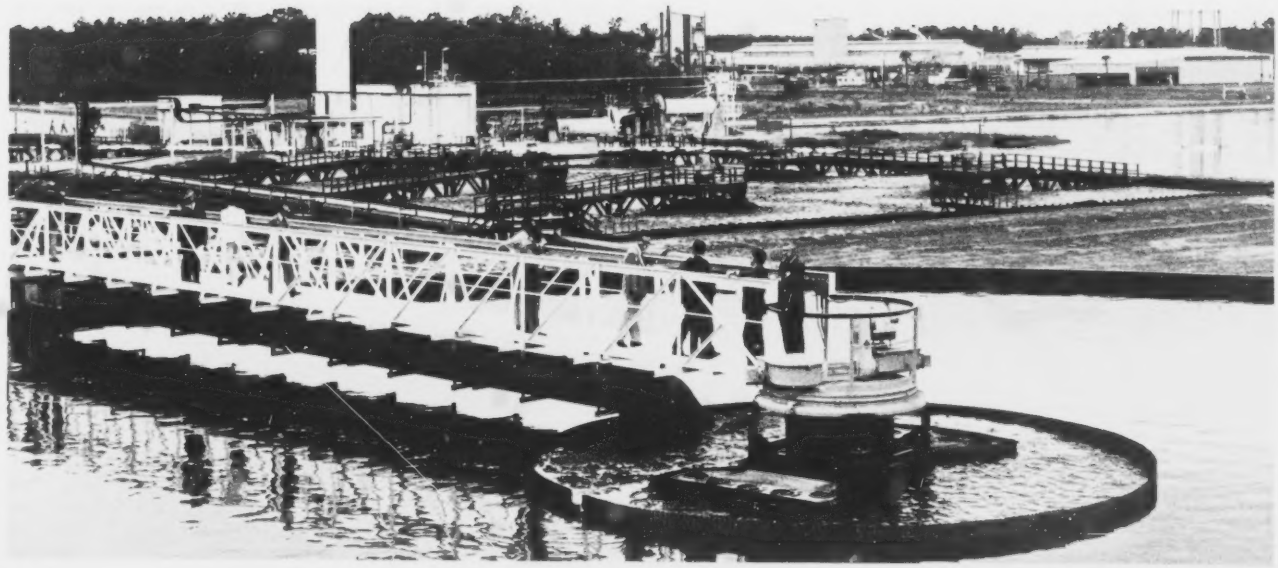
Another main reason for investment in the United States is the attractiveness of its free market system. Here the entrepreneurial spirit, the consistent application of sound economic principles, the freedom of flexibility, planning, and property security — briefly, the freedom to run a business, still exist. Even if you Americans sometimes have your doubts, all these factors create a climate of confidence in political, economic, and social stability, which we admire.

There are, of course, many other reasons why the United States is attractive for investment. Further considerations often cited are the reduction, or even elimination, of import duties and tariffs; low energy costs; modern transportation; abundant raw materials; low labor costs; and the changes of the currency rates with regard to the declined dollar. However, these reasons have not influenced our basic decision to invest in the United States.

Just with regard to the labor costs and the exchange rates, we have had a total reversal within the last 10 years. In this context one can readily observe how wrong and shortsighted it can be to make decisions based solely on factors that are subject to dramatic changes. And, let me add this very clearly: behind a capital investment of major magnitude in a foreign country should be more reasons than just favorable exchange rates or lower labor costs.

Q. You just stated that many ideas for better materials and improved productivity are generated here. Could you give an example?

A. A prime example of Bayer AG's participation in this market is SENCOR, a totally new herbicide specifically designed for the American soybean market. From 1977 through 1979, United States soybean plantings increased from 59 million acres to 72 million acres, and SENCOR's share of treated base acres rose to 35 percent. Other instances of Bayer AG's participation in this market include the raw materials for high performance aircraft coatings, and the insulation of the Alaskan pipeline,



A water treatment facility at the Dyestuff Division plant of Mobay Chemical Corporation, Bushy Park, South Carolina

coming to a large extent from our affiliate Mobay.

Q. Some Americans have been concerned about foreign acquisitions in the United States. Should they be concerned?

A. The examples I just listed show that we can make, and have made, real contributions to your country's economy by solving specific problems through tailor-made products. In other words, it is a case of participation by contribution. Second, the inflow of funds has a positive impact on employment levels, both direct and indirect.

Third, let me remind you that United States companies, like foreign companies, cannot fund their research and development costs relying solely on the domestic market. They also need foreign activities to recoup their expenses and return a reasonable profit. The transatlantic flow of capital has been going — and still is going — from the United States to Europe, too. The United States is still the largest exporter of capital in the world. Total German investments in America are only one-half of the amount invested by the United States in the Federal Republic. What used to be more or less a one-way street for investments has become an active give-and-take flow to the benefit of both parties.

Q. As a foreign investor, how do you foresee Bayer AG satisfying some of its managerial level personnel needs?

A. As important as products and technology are to the success of international business, the most important ingredient is the quality of the people available to us. A knowledge of international business is essential for today's global structure of business. Under this global aspect we need the best people running our business — educated people who know more than the conditions of just the United States or Germany, and creative people who are willing to participate in the international give-and-take.

Naturally, it is possible to train and to instruct people within the companies. Given the complexity of international business, however, we are very pleased with the fact that institutions of higher learning such as The University of South Carolina are engaged in teaching this knowledge. The work, the efforts, and the dedication devoted by your program in the College of Business Administration (the Master in International Business Studies [MIBS] program) in training future executives and in analyzing business practices of various countries is highly respected and appreciated. We at Bayer AG know well the value of your MIBS program since we have already employed some of your graduates. Our company looks forward to expanding even further this beneficial relationship with your university in the future.

Q. Dr. Dittmar, you recently announced that Bayer AG expects to invest more than $1 billion in the United States during the next five years. Will South Carolina be included?

A. Our experiences after the first decade in your

state are very good. We are very satisfied with all the assistance received from your state and local authorities. We feel welcome and comfortable here. Because of these favorable conditions and because of many close personal relations to people of this state, I can say — without going into the details, that of the $1 billion that we will invest in the United States in fixed assets over the next five years, a substantial part will go to Charleston, South Carolina.

The Employer and Employment Laws

By James J. Baldwin, LL.D.

The Employer and Employment Laws is a regular feature. Suggestions and inquiries by readers are invited.

RECENT DEVELOPMENTS EXPAND EEOC AUTHORITY

As if the Equal Employment Opportunity Commission (EEOC) did not already have enough power to investigate job discrimination cases, a recent combination of events threatens an even greater expansion of that agency's investigatory and enforcement powers. In light of this, the need for employer caution when dealing with the EEOC cannot be overemphasized.

Experiences employers are having with the EEOC's so-called "informal fact finding conference" procedure have shown that the EEOC sometimes uses this procedure to gather damaging evidence against employers. Information given by the employer at a fact finding conference, or in anticipation of it, may provide the EEOC with reasons to expand its investigation beyond the allegations of the original charge into unrelated employment practices. So-called EEOC "fishing expeditions," therefore, are an ever present danger during an investigation.

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The potential for an EEOC investigation to become a "fishing expedition" was increased by the Fifth Circuit Court of Appeals in the recent case of **EEOC v. Brookhaven Bank and Trust Company.**[1] In that case, an unsuccessful job applicant claimed that she had been denied employment because of her race. The EEOC investigated the charge and concluded that the bank had **not** discriminated against the applicant. During its inquiry, however, the EEOC uncovered what it felt to be evidence of segregated job classifications, a problem that had not been alleged in the charge. Even though the original charge was found to be without merit, the EEOC brought a class action lawsuit against the bank, based on other evidence obtained through its investigation of the meritless charge.

The lower court dismissed the class action on the ground that § 206(b) of Title VII[2] precluded an action by the EEOC where it was previously determined that the original charge was untrue. The appellate court reversed, stating that the EEOC investigation need not be limited in scope to the allegations of the initial claim. An original charge was held to be "sufficient to trigger an investigation of 'all practices which can reasonably be expected to grow out of the charge of discrimination.'"[3]

This standard is so liberal the EEOC and other Title VII plaintiffs should have no difficulty in

[1] 614 F.2d 1022 (5th Cir. 1980).

[2] 42 U.S.C. § 2000e-5.

[3] 614 F.2d 1022, 1024, quoting **Sanchez v. Standard Brands, Inc.**, 431 F.2d 455 (5th Cir. 1970).

expanding lawsuits beyond what was claimed in the original charge. In **Brookhaven Bank,** the original investigation was into discriminatory hiring practices, while the subsequent class action was based on segregated job classification within the bank. The claims in the class action had nothing in common with the meritless charge, and yet these claims were found to have "reasonably been expected to grow out of" the EEOC's original investigation. Such a standard as interpreted in this case invites the EEOC to expand its investigations and provides scant protection from an EEOC court case virtually limitless in scope.

The potential for abuse inherent in the **Brookhaven Bank** case is pointed out by Circuit Judge Reavley in his dissenting opinion:

> Today's decision places dangerous leverage in the hands of chronic complainers willing to point an accusing finger and charge employment discrimination. The employer may know a threatened charge is unfounded and he may know that the EEOC will rapidly discover that it is meritless. But those who learn of this decision will also know that judicial imprimatur is placed upon plenary investigations of all the employment practices of an employer despite the fact that the charge is patently frivolous.[4]

Faced with a frivolous charge, the employer might justifiably feel it is more feasible to submit to an unwarranted settlement demand than to face the prospect of a lengthy and costly defense to an expanded "Commissioner's charge" or a class action suit.

This broadening of the EEOC's investigatory authority was followed by a recent expansion in the agency's enforcement powers. By a five-to-four vote, the United States Supreme Court held in **General Telephone Company v. EEOC,**[5] that the EEOC was **exempt** from Rule 23,[6] which sets forth the normal procedural requirements imposed on all Federal court class actions. This rule requires that a litigant claiming to represent a class of similarly situated individuals demonstrate to the court that its claims justify class action treatment. Once this burden is met, the rule then provides for the court to define the scope of the class and the class issues involved. These requirements have protected the employer from abuse of the class action device, and provided it with information necessary to conduct an adequate defense.

In holding the EEOC exempt from such requirements, however, the majority reasoned that the agency's purpose was to "advance a public interest," and that in so doing it should not be required to represent particular individuals or be bound to particular complaints. The effect of this exemption is to place the employer in the dark as to class membership, appropriate defenses, and other matters relevant to the litigation. The EEOC's exemption from Rule 23 makes it difficult for the employer to determine the extent of his potential liability should the class action succeed. Furthermore, the employer loses a key protection afforded by the procedural requirements, i.e., that class members, as defined by the court under the rule, are bound by any decision or settlement regarding the class action aspects of the lawsuit. Without the protections of Rule 23, a dissatisfied employee or applicant in the EEOC action might possibly **again** sue the employer on his behalf over the same matters earlier litigated.

Although Justice White in his opinion noted that courts should take steps to deny this sort of "double recovery,"[7] adequate procedural protection from the high cost of defending a flood of discrimination charges by the EEOC and private litigants no longer exists for the employer. Even if the charges are found to be finally without merit, the interference and expense the employer must undergo to establish this can make it at best a costly victory.

For these reasons, all companies must attempt to limit the scope of an EEOC administrative investigation to the circumstances of the individual charge. The employer should thoroughly investigate all aspects of the claim as soon as it comes to his attention, consult with legal counsel as to an appropriate response to the charges, and determine whether there should be any settlement attempt. Information obtained by the EEOC at any level of inquiry into even a meritless charge could possibly open the door to a company-wide examination of all personnel practices. Such an investigation could easily produce class action ramifications, which, under the new Rule 23 exemption, would certainly prove serious and expensive, especially in discovery and litigation costs. In light of these expansive investigatory techniques and the court's broad interpretations of the EEOC's enforcement authority, the employer must act with extreme care when dealing with this powerful government agency.

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[4] 614 F 2d 1022, 1026.

[5] ___ U.S. ___, 100 S.Ct. 1698 (1980).

[6] Fed. R. Civ. P. 23.

[7] **General Telephone Company v. EEOC,** supra, Note 5, at 100 S.Ct. 1698, 1708.

Bottom Lines

By James B. Edwards, Ph.D., C.P.A., C.M.A., C.I.A., C.D.P.

Bottom Lines is a regular feature that brings attention to practical business taxes and accounting. Suggestions and inquiries by readers are invited.

FEDERAL TAX LINES

The recent Supreme Court decision in the Thor Power Tool Company case dealt a serious blow to the acceptability for tax purposes of inventory write-downs. This landmark decision requires stricter guidelines in writing-down inventories.

LINE ONE

The Supreme Court ruled in the Thor Power Tool Company case that taxpayers with inventories cannot arbitrarily write-down the carrying value of those inventories for anticipated excess inventories or future losses in inventories.

LINE TWO

Thor Power Tool Company wrote-down its inventories expecting eventual losses on disposition of some of its inventories. Thor was actually selling the inventory items at normal market price at the time of the write-down. There was an active market for the goods, but Thor had excess quantities of the goods on hand. Thor continued to offer its excess inventory for sale at the original prices with no write-downs on selling prices. The Court held that such write-downs of inventory value were not allowable for tax purposes absent a showing of specific reasons for the decrease in value — regardless of the correct treatment for generally accepted accounting principles.

LINE THREE

On March 10, 1980, the Internal Revenue Service released a revenue procedure requiring all taxpayers using such "erroneous" inventory methods to change to an acceptable method of valuing inventories. Each applicable taxpayer must make the change in the first taxable year ending after December 25, 1979. For most taxpayers this means beginning with calendar year 1979. **Observation:** The 1979 corporate and partnership tax return forms have a question concerning whether or not write-downs are being taken on "subnormal" goods in inventory, so the IRS has started placing some attention on this matter.

LINE FOUR

For taxpayers using a Thor-type write-down, the IRS granted blanket approval to change for taxable years ending on or after December 25, 1979. If a taxpayer filed a 1979 return with an uncorrected Thor inventory situation, they had until September 15, 1980, to file an amended return. IRS procedure requires that an application for a change in accounting method be prepared in duplicate, with the original attached to the tax return and a copy sent to the IRS National Office in Washington, D.C. Both the District Director and the National Office have authority to make adjustments to the change request as filed. **Observation:** Normally, applications for changes in accounting methods can be filed only during the first 180 days of the taxpayer's tax year.

LINE FIVE

Taxpayers with valid reasons for inventory

Dr. James B. Edwards, C.P.A., C.M.A., C.I.A., C.D.P., and Professor of Accounting in the College of Business Administration at The University of South Carolina, earned his B.B.A., M.B.A., and Ph.D. Degrees in Accounting at the University of Georgia. A specialist in A.I.C.P.A. tax courses, Dr. Edwards has organized and taught a number of professional development programs for the National Association of Accountants, including the first C.M.A. review course in the United States. The winner of 6 national writing awards, he is the author of numerous articles and papers for leading journals and professional organizations, and is a popular public speaker and a very active member/officer of the American Institute of Certified Public Accountants, the American Accounting Association, the National Association of Accountants, the Planning Executives Institute, and the American Management Association, among others.

write-downs, who have valued their inventories consistently from year-to-year, are not affected by either the Court ruling or the IRS announcement. Such taxpayers are advised to pay close attention to documenting reasons for decreases in values of inventory items on hand (damaged goods, changes in market conditions, etc.). Goods for which write-downs are claimed should be identified specifically; physically separated from "normal" goods, if possible; and actually offered for sale at prices below their usual selling prices. These taxpayers also should document for a reasonable period of time the actual usage or sales of the "excess" units, and avoid inconsistent treatment of similar inventory items. They should try to document that the buildup of the "excess" inventory was unusual and nonrecurring. If feasible, they also should gather statistical data from other taxpayers in the same industry to demonstrate that the amounts of inventory involved are truly "excess" according to an industry standard.

LINE SIX

Even if the taxpayer accomplishes most of the steps in Line Five to validate the propriety of a write-down of excess inventory, it is not certain that the IRS or the courts will permit a deduction. In the Will-Burt Company case, decided after the Supreme Court decision in the Thor case, the taxpayer identified excess inventory with red tags and even physically segregated the red-tagged items in a special storage area. Although the taxpayer's independent auditor and an independent expert witness held that the write-down of Will-Burt's excess inventory conformed both to generally accepted accounting principles and to the best accounting practice in the taxpayer's business, the deduction was disallowed by the Tax Court. The court held that, "in order to reduce the value of its inventory, a taxpayer must prove that the goods are damaged, imperfect, out of style, etc., or the taxpayer must offer the goods for sale at a lower price." Will-Burt had merely determined the items to be excess inventory without reducing selling prices or documenting damage, imperfection, dated style, etc.

LINE SEVEN

IRS Reg. 1.471-2(c) stipulates that subnormal goods are to be valued at bona fide selling prices less direct cost of disposition. A bona fide selling price is defined as a price at which there has been an actual offering of the goods during a period ending not later than 30 days after the inventory date.

IRS Reg. 1.471-2(c) also provides that raw materials or partly finished goods held for use or consumption are to be "valued upon a reasonable basis, taking into consideration usability and condition of the goods, but in no case shall such value be less than the scrap value."

BEYOND THE BOTTOM LINE

The Thor and Will-Burt cases are by no means the last encounters in the financial-vs.-tax accounting saga. Of the 800-odd cases understood to be pending on this general issue, some will likely elicit judicial opinions that will refine the avenues of permissible inventory write-downs. By all means, consult with your tax adviser about the tax effects of your inventory valuation system.

Eye Care in South Carolina

By Alan D. Bauerschmidt and Judith W. Alexander

Eye care remains one of the few aspects of medical care for which legitimate, alternative, principal providers exist. Both ophthalmologists (M.D.'s) and optometrists (O.D.'s) regularly render fundamental aspects of eye care to determine abnormalities and to prescribe lenses for the correction of vision deficiencies. The two professions otherwise, however, are quite different. Ophthalmology is considered among the surgical specialties of medicine, while optometry is a separate area of training intended to deal with the problems of human vision. Unlike the ophthalmologist, the optometrist does not prescribe drugs, make definitive diagnoses of eye diseases, treat eye diseases, or perform surgery.[1]

Because the two professions are undifferentiated in essential respects, the consumer of eye care might be expected to display uncertainty in

[1] Chapter 24, "Optometry," **In Health Resources Statistics: 1975,** U.S., Department of Health, Education, and Welfare, National Center for Health Statistics, Public Health Service, 1976.

his employment, and indicate variance in his expectations, of the two types of eye care providers. In addition, the overlapping responsibilities for providing primary eye care aggrevate certain policy decisions that rest in the public sector. For example, the question now exists in South Carolina as to the necessity of providing public financing to support a school of optometry.

In order to broach these issues and determine the attitudes and experiences of the consumer of eye care in South Carolina, the Consumer Panel of the College of Business Administration at The University of South Carolina was asked to participate in a survey.[2] A total of 661 families in the panel responded to the 15 questions concerning the nature of their eye care experiences and expectations.

[2]The panel is constituted by the Center for Marketing Studies, College of Business Administration. This group's demographic profile represents characteristics of urban households with annual incomes above $6,000. A total of 14 counties were represented in the panel at the time of this survey. In terms of education, employment, and income, panel members rank above average. Median household income is about $16,000. Response rates average 85-90 percent.

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EXPERIENCES WITH EYE DOCTORS

Family Eye Doctors

Nearly 89 percent of the families responding reported having an eye doctor, i.e., someone who specializes in ophthalmology or optometry.[3] An additional few families indicated they obtain their eye care from a physician not specializing in eye care, or in a clinic setting, while very few families stated that they had no source of eye care at all. Of those families with an eye doctor, 38.5 percent used the services of an optometrist, while the remaining 61.5 percent an ophthalmologist. Where two adult members were present in the family and both received eye care, nearly 92 percent were in agreement on the source of such care.

Age of the adult members of the family appears to be a significant factor associated with whether the family eye doctor is an optometrist or an ophthalmologist, with the latter more likely to be the source of eye care for the elderly.[4] Households in which the head has more education or the family income is greater than that of other household heads are also significantly linked with the use of ophthalmologists as family eye doctors. Households in which the adults are younger, less well educated, less wealthy, and/or Black were more inclined to report optometrists as the source of family eye care. Neither the county nor the city in which the family resided in South Carolina had any significant bearing on the type of eye doctor providing eye care.

Time Since Last Visit

Respondents to the questionnaire indicated an average of 18.6 months since their last visit to an eye doctor. There was no significant difference in this period of time between respondents who use optometrists and those who go to ophthalmologists. Overall, 67 percent of the respondents had visited their eye doctor during the last year and nearly 83 percent had visited their eye doctor during the last 2 years.

Distance Traveled to Eye Doctor

Few families reported any problem obtaining eye care due to distance between their residences and their eye doctor's office. The average reported

[3]Panelists were told to consult the yellow pages of their telephone directory if they were uncertain about the designation of their eye doctor as an ophthalmologist or as an optometrist.

[4]All stated significances were above the .95 level of significance using the nonparametric chi-square.

distance was 8.4 miles, with over 80 percent of the respondents living within 9 miles of their eye doctor's office. There was no significant difference between distances reported by families who use optometrists and those who go to ophthalmologists.

Who Has Prescription Lenses

Of the families responding, 66 percent indicated that both adults wore prescription lenses. Among that 66 percent one-third included a child who also has lenses. An additional 15 percent of the responding families stated that the female alone wore lenses while 9 percent reported the male in such circumstances. Over 7 percent of the families responding reported that either the male or female adult and a child wore prescription lenses.

Where Prescription Lenses Are Purchased

The sources of prescription glasses and contact lenses differed significantly with respect to the type of eye doctor used by the family. Over 60 percent of the most recent purchases of such lenses were made from the prescribing eye doctor when the family eye doctor was indicated to be an optometrist. The figure was only 36 percent for those families who go to ophthalmologists. Other sources of prescription lenses employed by responding families were various types of optical shops, department stores, and military outlets. The exact percentages are given in Table 1, by eye doctor category.

TABLE 1. Source of Prescription Lenses

Source	Prescribing Eye Doctor*	
	O.D.	M.D.
Prescribing Doctor	60.6%	35.8%
Optical Shop in a Small Town	1.4	6.7
Optical Shop in a Downtown Area	16.2	23.0
Optical Shop in a Suburban Shopping Center	14.4	22.1
Other Source	7.4	12.4

*The difference in sources between those with an O.D. and those with an M.D. as prescribing doctor was significant at the .999 level.

EXPECTATIONS CONCERNING EYE DOCTORS

Routine vs. Nonroutine Care

When asked where they would seek routine, nonemergency eye care and emergency, nonroutine eye care, panelists clearly distinguished between the services of ophthalmologists and optometrists. A total of 39 percent indicated they would go to an optometrist for routine, nonemergency eye care, while only 19 percent indicated they would do the same for such nonroutine, emergency care situations as pain, extraordinary redness, or a sudden blurring or decrease in vision. The 61 percent of the responding panelists who would go to an ophthalmologist for routine, nonemergency care grew to 81 percent for those who would seek an ophthalmologist for nonroutine, emergency care. Only 5 percent of those respondents who described their family as having an ophthalmologist for an eye doctor would seek an optometrist for routine care, while 11 percent of the families with an optometrist for an eye doctor would seek the services of an ophthalmologist for routine care. Almost 56 percent of the families having an optometrist as their eye doctor would seek the services of an ophthalmologist for nonroutine, emergency care. The remaining 44 percent of these families stated that they would use an optometrist for nonroutine, emergency care.

Expected Wait for Appointments

Responding panelists indicated that, on an average, they would expect to wait 32.2 days for an appointment for routine eye care. Those who would seek such service from an optometrist expected an average wait of 19.8 days, while those seeking routine care from an ophthalmologist expected to wait an average of 40.6 days. Only 21 percent of those who would seek the care of an ophthalmologist expected their wait for an appointment to be less than 1 week in length, while 43 percent of those going to an optometrist believed 1 week or less would be the extent of their wait for care. The differences in expected waiting time for routine care from ophthalmologists and optometrists was statistically significant.[1]

Respondents did not expect to wait appreciable lengths of time for nonroutine care. The average expected wait for such care was 5.1 days, with those who reported they would use an optometrist for such care expecting an average wait of 2.8 days, and those using an ophthalmologist, 5.6 days. Approximately 77 percent of each group believed they would see their respective eye doctors within 1 week, with no significant difference in expected waiting time between the two.

Cost

Respondents estimated it would cost an average of $35.17 for a complete eye examination. Estimates

[1] The test of significance in this particular instance was above the .999 level.

provided by families who reported an optometrist as their eye doctor differed from those provided by families reporting an ophthalmologist as their family eye doctor. These significant differences in estimated prices of a complete eye examination are revealed in Table 2.

TABLE 2. Estimated Cost of Complete Eye Examination by Eye Doctor

Estimated Price for Complete Eye Examination	Family Eye Doctor	
	O.D.	M.D.
Less than $20	2.4%	4.1%
20-29	40.0	34.6
30-39	23.8	40.5
40-49	10.5	11.1
50-74	18.1	6.2
75-99	3.3	1.8
More than $100	1.9	1.8

*The difference in cost of an eye examination by an O.D. and an M.D. was significant at the .999 level.

A similar average cost was calculated from responses to a query concerning the cost of an eye examination by an eye doctor for the purpose of prescribing corrective lenses. This average reported cost was $36.45, with no significant difference in the response provided by families reporting their eye doctor to be an ophthalmologist and those reporting their eye doctor to be an optometrist. There was also no significant difference between the estimates provided by the two groups of families with respect to the cost of a pair of standard eye glasses. The average cost was $78.97, with 23 percent of the families reporting a cost greater than $100. From past experience with the South Carolina Consumer Panel, it is known that average price estimates are extremely close to prevailing prices, although no attempt was made to check the accuracy of the estimates given here with other marketplace data.

Barriers to Good Eye Care

Only 37 percent of the responding panelists felt any barriers existed that prevented an individual from obtaining good eye care. Panelists who indicated that their family eye doctors were optometrists were equally as likely to report no barrier to good eye care as were respondents having ophthalmologists as their family eye doctors. Among those respondents who reported a barrier to good eye care, the high cost of such care was most frequently mentioned. Over 42 percent of those who perceived a barrier indicated high cost as the single most important barrier. This perception was shared equally by those reporting ophthalmologists and those reporting optometrists as family eye doctors. Lack of information about what eye care an individual should obtain was mentioned by 13.6 percent of the panelists who thought a barrier existed. Only 1.2 percent of the panelists indicating the existence of a barrier believed that the distance one had to travel to obtain such care, or long waits in eye doctor waiting rooms, were significant barriers.

Individuals who indicated the use of optometrists as family eye doctors were slightly more likely to report the general lack of eye care and long waits for appointments as the single greatest barrier to good eye care. Over 6 percent of the panelists employing optometrists as family eye doctors singled out the general lack of eye care, while nearly 9 percent of this same group indicated waiting for appointments as the greatest barrier to eye care. Families using ophthalmologists isolated these problems to a lesser degree — 3.1 and 7.8 percent, respectively.

CONCLUSION

The low degree of complaint by this panel about eye care is remarkable. Past use of the panel indicates that its members are active and perceptive consumers. The information obtained in this survey would indicate a relatively high degree of satisfaction with the eye care being obtained in South Carolina. Of course, the survey does not indicate the adequacy or quality of eye care being provided, or whether the panelists, as representative South Carolina consumers, use eye care to their best advantage.

It should be noted also that the proportion of the panel members using either an ophthalmologist or an optometrist was in inverse relationship to the number of each type of eye doctor practicing in South Carolina at the time the survey was conducted. While only 32.2 percent of the eye doctors were ophthalmologists, 61.5 percent of the panelists reported their use as eye doctors. In like fashion, 67.8 percent of the eye doctors in South Carolina were optometrists while only 38.5 percent of the panelists identified an optometrist as their family eye doctor.[6] The discrepancy between the two proportions may be an artifact of the composition of the South Carolina Consumer Panel, or it could reflect disproportionate workloads of the two professions.

[6] **Health Resources Statistics: 1975** indicates that South Carolina had 85 practicing ophthalmologists and 179 active optometrists in 1973.

Reducing Government Cost through Federal-State Tax Consolidation

By Al L. Hartgraves, Jr., Ronald M. Copeland, and Howard P. Sanders

Recent elections throughout the United States focused much attention on state and local tax reduction referenda. Proposition 13, approved by the California electorate in 1978, thrust the tax revolution movement into the public limelight, commanding the attention of the press, political opportunists, and, most of all, American taxpayers. A taxpayer's revolt is now a serious issue with millions of Americans, reflecting in part the previously unrestrained growth in the cost of government. This cost has been estimated to equal approximately 30 percent of the average annual per capita income. That translates into nearly two workdays per worker per week, or about four months per year, just to support the ever mushrooming governmental system.

Given rampant inflation, imminent shortages of fuel and other commodities consumed by government, and further pressures that hike government budgets, every means for reducing government costs must be pursued. One such means is consolidation of administrative functions that are duplicated at various levels of government. From economy and efficiency standpoints, every opportunity for consolidation should be explored. Consolidation, or "piggybacking" as it is often called, would allow government functions currently performed at both the state and the Federal levels to be eliminated at one or the other level. States could

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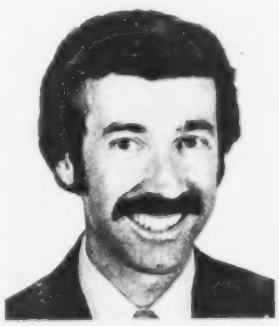

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piggyback some Federal functions, and the Federal Government could assume responsibility for activities now performed at the state and local levels.

One piggybacking opportunity was created in 1976 when Congress amended the Internal Revenue Code to allow state governments to utilize the Federal income tax collection system for the collection of state individual income taxes. Each state has an option to accept or reject the opportunity: availability does not hinge on the collective action of all states. In the four years since the Federal collection program became available, no state has elected to participate. This lack of acceptance raises serious questions about the efficacy of the program and/or the concern of the states over cost reductions. In either case, it is appropriate and timely that the program be reexamined as a viable alternative to existing state tax collection systems.

The purpose of this article is to present enough information about the Federal collection program for the reader to be able to evaluate the tradeoff between reducing costs of tax administration and surrendering autonomy in control of the state collection system. Specifically, this article reviews the provisions of the Internal Revenue Code dealing with the Federal collection of state individual income taxes, identifies the advantages and disadvantages accruing to adopting states, and describes expected implementational and legal ramifications of adoption.

FEDERAL COLLECTION OF STATE INDIVIDUAL INCOME TAXES

The provisions for the Federal collection of state individual income taxes are contained in sections 6361-6365 of the Internal Revenue Code. Essentially, these provisions allow the state to enter into an agreement with the United States Secretary of the Treasury whereby the Internal Revenue Service will collect and administer the state individual income tax systems. The Federal Government will receive no fees or commissions for their services which include collection of taxes (including withholdings at source), timely remission of taxes to the state treasuries, resolution of all administrative and legal conflicts with individual taxpayers, and performance of all audit and enforcement functions. In other words, the Federal Government will assume all duties beyond the legislative phase with respect to state individual income taxes. The executive and judicial functions will be performed by the Federal Government on behalf of the states.

The Federal collection program will remain in force for a particular state as long as the agreement remains in force. At any time within certain specified time constraints, enrolled states may void the agreement and resume full administration of their own tax collection system.

Base of State Taxation

The most restrictive requirement of the Federal collection law is that the tax imposed by an adopting state on the income of individuals must be based either on Federal taxable income or on total Federal income taxes. This, however, does not preclude the possibility of some differences between Federal taxable income and state taxable income; in fact, the law requires that certain adjustments be made to Federal taxable income in arriving at state taxable income. The items that must be **removed** from the Federal taxable income computation are

—the deduction for interest on U.S. obligations,
—the deduction for state income tax,
—the exemption of certain income (e.g., municipal bond interest), and
—the deduction for sales and local taxes in certain cases.

In addition to the above, a state tax on tax preference items will be permitted, as will credits for taxes paid to other states and credits for state and local sales taxes, in certain cases.

A state individual income tax that is based on total Federal income taxes will qualify under the Federal collection program as long as it is imposed as a percentage of the total Federal normal and surtaxes on individual income (as adjusted) less total Federal credits allowable. The only required adjustment is that taxes related to interest on Federal obligations included in Federal taxable income be removed. In addition, the Federal tax may be adjusted for the tax related to the other required and permitted adjustments listed in the previous paragraph.

One of the problems common to most state tax revenue systems is the income allocation problem for residents earning income in states other than the state of their residency. The Federal collection law allows states to continue to tax income earned from wages and other business sources within the state by nonresidents, but only if 25 percent or more of the taxpayer's wage and other business income is from sources within the state. In addition to the above provisions and requirements associated with the Federal collection program, taxpayers in adopting states must elect identical Federal and

state tax years and filing status (single, married, head-of-household, etc.) for both. These requirements, however, already exist under many state individual income tax laws. Further, for state tax purposes, any income flowing through taxing conduits, such as partnership or Sub-Chapter S Corporations, must receive the same tax treatment as that given under the Federal tax law.

Authority to Enforce Law

The last, but most important, provision of the Federal collection law pertains to authority to enforce the law. States shall not impose any criminal or civil sanctions beyond those provided under the Internal Revenue Code. The United States government will represent the state interest in all administrative and judicial proceedings, just as it represents itself, and the determinations of the Secretary of the Treasury of the United States as to tax liabilities or tax refunds with respect to state income taxes will be final and shall not be reviewed by, or enforced by, any employee of the state. Probably these restrictions limiting the power of the states in matters other than mere collection of monies are largely responsible for the poor response this Federal program has received from state legislatures.

ADVANTAGES OF FEDERAL COLLECTION

Proponents of Federal collection of state income taxes have argued vigorously that benefits will be enjoyed by the adopters of this cooperative program. Among these are increased taxpayer convenience and reduced cost of compliance, a greater level of compliance with state income tax laws, increased administrative efficiency, and reduction of the total cost of government borne by the taxpayer.

Taxpayer Convenience and Reduced Compliance Cost

Under the Federal collection program, taxpayers will be relieved of the additional chore and expense of having to file a state tax return. The magnitude of this benefit, of course, depends upon the difficulty of preparing the state return. In states that already base their income taxes on Federal taxable income, the benefit of eliminating a state return will be conceivably less than in those states using complex computational procedures or tax forms. In any case, however, taxpayers at least will enjoy the psychological benefits of not having to file state tax returns.

The cost savings of eliminating state returns are as difficult to measure as the psychological satisfaction gained. Adoption of the Federal collection program will mean cost savings for those taxpayers who employ a paid tax preparer. Likewise, those employers who withhold state and Federal income taxes from employee wages will be spared the burden of maintaining both a Federal and state withholding system. While withholding for these employers may be substantially **simplified**, here again, the **cost savings** are extremely difficult to estimate.

Increased Compliance

Adoption of the Federal collection program will have conflicting effects on compliance with state income tax laws. Once the state audit function is abolished, less deterrence under the consolidated program will exist than under the separate enforcement system. If taxpayers are more apprehensive of Federal scrutiny than state scrutiny, they will be less likely to violate a state income tax law that is enforced by the Federal Government. The Federal judicial system contains a separate Tax Court that may be generally more efficient than the judicial systems of most states in settling tax disputes and rendering judgments for unpaid taxes.

The compliance issue, however, cannot be described in broad generalizations. Some states vigorously pursue tax manipulators and thus will have greater compliance than might be obtained under Federal administration. Other states that are less vigorous in enforcing tax laws probably will enjoy improved compliance under the Federal collection system.

Increased Administrative Efficiency

A convincing argument supporting adoption of the Federal collection program concerns the expected increase in administrative efficiency resulting from reduced state collection and enforcement efforts. This program will consolidate administrative functions, including (1) the reporting of wages paid and taxes withheld, (2) the reporting of estimated taxes, (3) the simultaneous auditing and adjusting of Federal and state taxes, and (4) the processing of tax notices, collections, correspondence, and information storage and retrieval. In addition, Federal lawmakers and courts will absorb the legislative and judicial functions, thus relieving state legislators, judges, and their support staffs of the burden of tax legislation and adjudication.

Reduction of Government Costs

Since all state individual income tax administration and enforcement functions will be absorbed by the Federal Government for those states

adopting Federal collection, the costs directly associated with these functions will be shifted from the state to the Federal budget. In addition, certain indirect costs incurred in state collection of income tax also are likely to be eliminated. While these cost savings might not represent a significant percentage of the total state budget, they will certainly constitute a substantial absolute amount. For example, the expenditures budget for the income tax division of the State of South Carolina, in which 1 million personal income tax returns are filed, was $3 million for the 1977-'78 fiscal year, or about $3.00 per return. Most of the approximately 85 million Federal personal income tax returns filed annually have companion state income tax returns. By adopting the Federal collection program, then, a state will eliminate much of its own tax budget. This cost savings would be even greater in those states with larger populations.

DISADVANTAGES OF FEDERAL COLLECTION

Most of the advantages discussed above are based on expected economies of effort and cost savings. The disadvantages propounded in opposition to the Federal collection program typically have either a political or an ideological philosophical basis. Among the most debated disadvantages are (1) the loss of state sovereignty, (2) displacement of state employees, (3) social and economic policies effects, and (4) potential losses of revenue.

Loss of State Sovereignty

The most emotional issue concerns any loss of state sovereignty that might result from adoption of the program. Typical arguments are based on such premises as ". . . a shift in tax administration is a shift in power," ". . . the power to tax is the power to destroy," ". . . the entity to which one pays his taxes provides the services," ". . . power goes where the money is paid," ". . . a threat to the sovereignty of the states is a threat to the Federal system."

Whether the Federal collection program really threatens the sovereignty of the states hinges on legal and Constitutional grounds rather than on philosophical issues. To date, the Federal program has gone uncontested in the courts. Only as individual states move to adopt the program is the legal question of sovereignty likely to receive judicial examination.

Displacement of State Employees

Eliminating state administration and enforcement functions translates into the loss of state jobs for persons performing these functions. The greater the number of persons involved in state tax administration and enforcement, the larger the displacement problem. While displacement should not be a major issue, politically it often is, especially where such jobs stem from a patronage system. This threat of job elimination, coupled with patronage obligations, could influence the decisions of particular states not to adopt the Federal collection program.

Social and Economic Policy Effects

The social and economic policy effects of the Federal collection program are manifested in two ways. First, when a state adopts the Federal tax base for purposes of state income tax assessment, it is giving tacit endorsement to all policy objectives of the Federal tax law. States that participate will encourage such national goals as economic stimulation and control, income redistribution, energy and environmental conservation, and full employment, as well as other Federal objectives that influence national tax policies. The social and economic tax policy goals of many states are not now consistent with those of the Federal Government, so any moves toward the Federal collection program are bound to involve massive debate in certain state legislatures.

The second manifestation of the social and economic policy effects of the Federal collection program is really more of a disadvantage to the Federal bureaucracy than to the states. When state income taxes become directly linked to the Federal tax base, the states will have a vested interest in any laws affecting that base. As a result, state governmental and political forces will be brought to bear on Congress much more so than is presently the case. Will such lobbying be in the best interest of the entire country? The answer to this question is one of both political and philosophical dimensions. No single answer will be fully satisfying.

Revenue Loss

Some opponents of the Federal program suggest that total state tax revenues will be smaller with Federal collection than with state collection. This premise is difficult to argue in general, since state tax revenues are a function of many different variables. When state tax laws are modified to conform to the Federal tax base, total revenues **may** be reduced **if** the state income tax rates are not appropriately changed. States that revise the tax rate schedule to correspond to changes in the

definition of the tax base will not necessarily suffer a reduction in total revenue. However, the **burden** of state income taxation may change. Taxes for some taxpayers may increase while those for others may decrease.

Questions of equity in tax burden and the redistribution of disposable income are not easily resolved. Loss of revenue will occur if the resolution of equity issues requires that the tax rate be established in such a way that while no single taxpayer has an **increase** in state taxation, some taxpayers do have a **reduction.**

SUMMARY AND CONCLUSIONS

The greatest advantage of the Federal collection system will be the reduced cost to the adopting state. The costs of individual income tax collection, resolution of administrative and legal conflicts with individual taxpayers, and performance of all audit and enforcement functions will be eliminated. Other advantages, which are more difficult to measure, will be increased taxpayer convenience, reduced compliance cost, increased compliance with tax laws, and increased administrative efficiency.

The greatest disadvantages to an adopting state will be the loss of state sovereignty and the displacement of state employees. Other problems will include the tacit endorsement of Federal tax law policy, the vested interest in Federal tax laws, and the possible loss of revenue.

Many of the advantages and disadvantages of this program are difficult, if not impossible, to measure in terms of dollars and cents. The possible reduction in costs of government, however, should provide the incentive for state legislatures to consider the adoption of this individual income tax collection system.

Our December-January Issue Will Feature . . .

The South Carolina Economy: Review and Outlook. Here Dr. Robert E. Graham, Jr., Dr. F. Jerry Ingram, and Mrs. Sandra J. Teel, USC economists who have taken a close-up look at the South Carolina economy, will comment on the remarkable economic progress the state has made over the last half century. However, they will also point out that despite this tremendous growth in absolute terms, the typical South Carolinian still enjoys only 80 percent of the national average income.

A Legislative Bombshell: The Depository Institutions Deregulation and Monetary Control Act of 1980. According to Dr. Arthur E. Warner, USC's Chairholder in Real Estate, Property Finance, and Urban Development, a legislative bombshell may revolutionize the ways financial services are provided to corporations, business firms, consumers, and others in the United States. In this article he will list the key developments that can be anticipated in the years immediately ahead as a result of this act.

Home-Grown OSHA: How It Started, How It Grows, and What It Does. In a to-the-point, fast moving interview, State Commissioner of Labor Edgar L. McGowan will explain how South Carolina's OSHA program got started, what direction it's headed in, and what it has accomplished.

EEOC's New Guidelines on Sexual Harassment: A Further Expansion of Employer Liability. In next month's **The Employer and Employment Laws,** James J. Baldwin will examine EEOC's new guidelines on sexual harrassment. He will point out that a heavy burden has been placed on the employer by these guidelines to prevent such harassment, while little or no guidance has been provided as to what specific conduct is illegal.

Federal Tax Lines. In his latest **Bottom Lines** column, Dr. James B. Edwards will scrutinize deductions for travel, entertainment, and related business expenses, and will point out both tax saving opportunities and tax pitfalls.

The Regional Effects of Market Erosion and Tariff Reductions: A Study of the Textile Industry. In this article Dr. Randolph C. Martin of USC's Economics Department and Dr. Joseph Pelzman of George Washington University's Economics faculty will examine and estimate the impact of a hypothetical tariff reduction and continued market erosion on labor earnings and employment in the textile industry at the regional level.

So What's New with Performance Appraisal? It's very difficult for a harassed employer to make sure that he can justify by objective criteria his judgment of a subordinate's performance. Here Dr. Stuart A. Youngblood will provide a guide a company can use when it is considering an appraisal format.

The Management Bookshelf and **Statistical Indicators of South Carolina Business.**

The Management Bookshelf

By Dwight Gardner, Business Librarian, M.B.A., M.S.L.S.

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SUCCESSFUL TIME MANAGEMENT
by Jack D. Ferner
John Wiley & Sons, Inc.
605 Third Ave.
New York, NY 10016
1980, 287 pp., $8.95 paperback
In this study of time management the author utilizes some of the same management concepts that have been successfully applied to other business problems. His analysis also takes into account the personality characteristics of the individual manager. The overall result is a useful self-teaching guide to the more effective management of time. Included in the text are 13 key time savers.

FINANCIAL INVASION OF THE U.S.A.: A THREAT TO AMERICAN SOCIETY
by Earl H. Fry
McGraw-Hill Book Co.
1221 Ave. of the Americas
New York, NY 10020
1980, 202 pp., $9.95
This book investigates the issue of direct foreign investments in the United States. It explores the reasons behind such investments, their range and magnitude, and their impact on the American economy. It also looks at the role of the government in regulating such activities.

CORPORATE BIGAMY: HOW TO RESOLVE THE CONFLICT BETWEEN CAREER AND FAMILY
by Mortimer R. Feinberg
William Morrow & Co., Inc.
105 Madison Ave.
New York, NY 10016
1980, 245 pp., $12.95
In this volume, an industrial psychologist examines the problem of "corporate bigamy," or the case where the individual is married to both spouse and career. He explores why these achievement-oriented employees neglect their families and suggests possible solutions to resolve such conflicts.

DECISION SUPPORT SYSTEMS: CURRENT PRACTICE AND CONTINUING CHALLENGES
by Steve L. Alter
Addison-Wesley Pub. Co.
Reading, MA 01867
1980, 311 pp., $17.95
This book discusses how new computer technology can be utilized to make an organization more effective. It contains sections on the various types of decision support systems, their uses, and the questions involved in implementing them. It stresses the need for an evolving management philosophy on the place of the computer within the organization that keeps pace with the technological evolution of the computer itself.

STREET GAMES
by Alan Lechner
Harper & Row Publishers, Inc.
10 E. 53rd St.
New York, NY 10022
1980, 176 pp., $8.95
This author takes a humorous and cynical view of the world of the financial and securities markets. He illustrates his points with many interesting stories through which the reader gains an understanding of the real workings of these markets.

PEOPLE SKILLS: HOW TO ASSERT YOURSELF, LISTEN TO OTHERS, AND RESOLVE CONFLICTS
by Robert Bolton
Prentice-Hall, Inc.
Englewood Cliffs, NJ 07632
1979, 300 pp., $4.95 paperback
This work focuses on the three core areas of interpersonal communications: listening skills, assertion skills, and conflict management skills. It makes an excellent text for teaching.

* * *

Readers are invited to submit titles of books that they wish to call to the attention of others.

STATISTICAL INDICATORS OF SOUTH CAROLINA BUSINESS

ITEMS	July 1980	July 1979	Latest Month Percentage Change from Year Ago
Deposits, Member Banks ($ millions)	$ 3,181	$ 2,973	+ 7.0
Demand	1,632	1,602	+ 1.9
Time	1,549	1,371	+ 13.0
Loans, Member Banks ($ millions)	2,179	2,079	+ 4.8
Savings in Savings and Loan Associations ($ millions)	5,292.4	4,955.9	+ 6.8
Sales and Use Tax Collections ($ thousands)	59,222.6	56,946.4	+ 4.0
Labor Market:			
Civilian Labor Force (thousands)	1,313.9	1,333.3	- 1.5
Employment	1,205.3	1,264.9	- 4.7
Rate of Unemployment (percentage)	8.3	5.1	+ 62.7
Nonfarm Wage and Salary Employment (in thousands)	1,164.0	1,177.4	- 1.1
Manufacturing	375.9	398.4	- 5.6
Contract Construction	71.5	75.9	- 5.8
Transportation and Public Utilities	53.7	54.6	- 1.6
Wholesale and Retail Trade	231.0	226.4	+ 2.0
Finance, Insurance, and Real Estate	49.8	47.8	+ 4.2
Services, Mining, and Miscellaneous	163.0	160.3	+ 1.7
Government	214.1	214.0	a
Average Hourly Earnings, All Manufacturing (in dollars)	$ 5.60	$ 5.11	+ 9.6
Initial Unemployment Claims Filed in South Carolina	116,730	27,588	+323.1
Placements by South Carolina Employment Offices (nonagricultural)	9,660	9,903	- 2.4
Indexes of Prices Received by Farmers (1966-68=100)			
All Farm Products	210	207	+ 1.4
All Crops	228	220	+ 3.6
Livestock and Products	207	212	- 2.4
S.C. Parity Ratio	75	82	- 8.5
New Motor Vehicle Registrations			
Cars	9,140	10,460	- 12.6
Trucks	2,633	3,112	- 15.4

	July 1980	July 1979	First 7 Months 1980	First 7 Months 1979	First 7 Months Percentage Change
Valuation of Building Permits Issued ($ millions)[d]					
Total for all S.C. Counties	$145.0	$152.6	$984.3	$1,072.2	- 8.2
Available County Data					
Aiken	2.5	5.3	14.0	38.8	-63.9
Berkeley	6.7	4.0	43.4	29.9	+45.2
Charleston	13.6	12.2	101.7	126.9	-19.9
Dorchester	3.6	4.3	20.2	33.0	-38.8
Lexington	4.6	6.6	71.2	55.4	+28.5
Richland	14.3	21.7	72.6	83.1	-12.6
Greenville	14.5	15.2	108.0	121.2	-10.9
Pickens	1.8	2.7	30.7	22.6	+35.8
Spartanburg	9.1	7.2	47.7	70.3	-32.1

[a]Less than one-half of 1 percent.

[b]Due to the termination of certain data series by the Federal Reserve Bank of Richmond, this series has been replaced by the Federal Home Loan Bank of Atlanta.

[c]Ibid., the South Carolina Employment Security Commission.

[d]Note: These amounts are now being reported in millions of dollars instead of thousands of dollars.

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Volume XXVII, Number 3
December-January 1981

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by Robert E. Graham, Jr., F. Jerry Ingram, and Sandra J. Teel

"A Legislative Bombshell: The Depository Institutions Deregulation and Monetary Control Act of 1980"
by Arthur E. Warner

"Home-Grown OSHA: How It Started, How It Grows, and What It Does"
by Edgar L. McGowan and James E. Knight

"The Employer and Employment Laws"
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"Bottom Lines"
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18 **A Legislative Bombshell: The Depository Institutions Deregulation and Monetary Control Act of 1980.** According to Dr. Arthur E. Warner, USC's Chairholder in Real Estate, Property Finance, and Urban Development, a legislative bombshell may revolutionize the ways financial services are provided to corporations, business firms, consumers, and others in the United States. In this article he lists the key developments that can be anticipated in the years immediately ahead as a result of this act.

26 **Home-Grown OSHA: How It Started, How It Grows, and What It Does.** In a to-the-point, fast moving interview, State Commissioner of Labor Edgar L. McGowan explains how South Carolina's OSHA program got started, what direction it's headed in, and what it has accomplished.

30 **EEOC's New Guidelines on Sexual Harassment: A Further Expansion of Employer Liability.** In this month's **The Employer and Employment Laws,** James J. Baldwin, partner in the law firm of Haynsworth, Baldwin and Miles, examines EEOC's new guidelines on sexual harassment. He points out that a heavy burden has been placed on the employer by these guidelines to prevent such harassment, while little or no guidance has been provided as to what specific conduct is illegal.

32 **Federal Tax Lines.** In his latest **Bottom Lines** column, Dr. James B. Edwards, Professor of Accounting and expert consultant to management, scrutinizes deductions for travel, entertainment, and related business expenses, and points out both tax saving opportunities and tax pitfalls.

34 In **The Regional Effects of Market Erosion and Tariff Reductions: A Study of the Textile Industry,** Dr. Randolph C. Martin of USC's Economics Department and Dr. Joseph Pelzman of George Washington University's Economics faculty examine and estimate the impact of a hypothetical tariff reduction and continued market erosion on labor earnings and employment in the textile industry at the regional level.

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This month's cover: An architectural rendering of the proposed addition to the College of Business Administration at The University of South Carolina. Approved by the Governor and the legislature, construction is now awaiting issuance of bonds.

The South Carolina Economy: Review and Outlook

By Robert E. Graham, Jr., F. Jerry Ingram, and Sandra J. Teel

INTRODUCTION

Over the past half century, residents of South Carolina have improved their living standards greatly as the state's economy has experienced tremendous growth. The Palmetto state's record of economic progress is impressive, whether it is viewed in absolute terms or relative to economic growth in other states.

The purpose of this article is (1) to analyze South Carolina's growth experience in an effort to determine whether it has resulted in a better economy or simply a bigger one, (2) to look at what appears to be two disturbing emerging economic trends in order to determine their implication for future economic progress, (3) to compare South Carolina's economic trends with other states' performances, and (4) to examine the relative economic progress of South Carolina's counties. Economic growth is measured in terms of personal income.

Personal income is the total income received by residents of an area (in this case, the state) from all sources. It consists of wages and salaries (both cash and in kind); supplementary labor income such as directors' fees, compensation for injuries, and employer contributions to welfare and pension funds; net income of noncorporate businesses, both farm and nonfarm; investment income in the form of rents, dividends, and interest; and transfer

Dr. Robert E. Graham, Jr. is former Associate Director of the Bureau of Economic Analysis of the U. S. Department of Commerce. Research Consultant for the USC Bureau of Business and Economic Research, and Professor of Economics in the College of Business Administration at The University of South Carolina. Dr. Graham is also author of **Personal Income in South Carolina by Type, Source, and Geographic Area, 1929-'69**, No. 24 in the ESSAYS IN ECONOMICS series published in November 1971 by the latter bureau mentioned above. This original work contained estimates of personal income by type and by industrial source for individual counties and metropolitan areas of South Carolina for the selected years 1929-'69. Later articles by Dr. Graham, "Personal Income By Counties in South Carolina" (carried in the October 1972 issue of this publication), "Personal Income in South Carolina by Counties and Metropolitan Areas, 1971" (October 1973 this publication), "Personal Income in South Carolina Counties, 1972" (November 1974 this publication), and "The 1974-75 Recession and Personal Income in South Carolina Counties" (October 1977 this publication), and "Personal Income in South Carolina During Recession and Recovery" by Dr. F. Jerry Ingram (October 1976 this publication), updated the original material. Copies of both the ESSAY and the earlier articles are available upon request from the USC Division of Research, College of Business Administration.

Dr. F. Jerry Ingram is Associate Director of the Division of Research and Assistant Professor of Real Estate in the College of Business Administration at The University of South Carolina. He holds a B.A. Degree in Business Administration from Mississippi State University, a Master's Degree in Economics from Murray State University, and a Ph.D. Degree in Business Administration from USC, and has served as a member of the faculties of all 3 alma maters. His previous publications include **Financial Services: Household Attitudes and Practices**, No. 12 in the OCCASIONAL STUDIES series published in July 1977 by the USC Bureau of Business and Economic Research (co-author), and articles in **Bankers Magazine**, **Real Estate Issues**, the **Journal of Bank Research**, the **Journal of Consumer Affairs**, and the **Business and Economic Review**. Dr. Ingram also serves as a Consultant for several South Carolina financial institutions and market analysis firms.

Mrs. Sandra J. Teel is an M.B.A. candidate in the College of Business Administration, The University of South Carolina. She also holds a B.A. Degree in French from the University of North Carolina. Mrs. Teel has served as an Administrative Assistant for UNC's Division of Thoracic Surgery, as Assistant Office Manager and Special Effects Person for Surgical Specialists, Inc. (Norfolk, Virginia), and as a member of the faculty of Garrett High School (Charleston, South Carolina). She has also coauthored a paper that appeared in the **Journal of Marketing**.

payments which include, among others, such items as welfare payments, unemployment insurance benefits, social security and government retirement payments, and veterans benefits. Per capita income is derived by dividing total personal income by total population.

The performance measure most widely used in economic analysis at the national level is gross national product (GNP) which measures the output or production of the economy. GNP is also a measure of income because for every dollar of output there must necessarily be a corresponding dollar of income. For technical reasons GNP is not available for states or other geographic areas smaller than the nation. However, personal income is a generally accepted proxy for GNP at all subnational levels. GNP and personal income differ mainly in two ways: (1) corporate income taxes and corporate profits are included in GNP but excluded from personal income, and (2) transfer payments and government interest payments are factored into personal income but omitted from GNP. Other differences are minor. Personal income bears a close and relatively stable relationship to GNP. For instance, in 1929, the ratio of personal income to GNP was .83 while, in 1979, this ratio stood at .81.

ABSOLUTE GROWTH

Table 1 shows several measures of economic growth in South Carolina for selected years from the period 1929-'79. As shown in column 1, total personal income (TPI) in the state was 44 times as large in 1979 as in 1929. Over the past half century, the TPI of the state's residents rose from $467 million in 1929 to $20.6 billion in 1979.

This remarkable growth, the fifth largest percentage gain scored by any state (Tables 2 and 3), is in part real and in part spurious as far as economic well-being is concerned. This statement is supported by four facts.

1. Nearly two-fifths of the 1929-'79 income increase is due entirely to an increase in the general price level (inflation) as measured by the personal consumption expenditures component of the GNP deflator. The GNP deflator, a broader (and, many experts think, more meaningful) measure of the cost of living than the Consumer Price Index, rose 3½ times (or was 4½ times as high) and the purchasing power of the dollar dropped almost 80 percent.

2. A near doubling of employment during this period accounts for about 16 percent of the increase in personal income.[1] To the extent that additional employees came from the state's unemployment rolls, the gain represents real progress in economic welfare. To the extent that the employment increase was due to migration into the state during the period, the economic gain was much less significant and perhaps relatively insignificant in terms of the welfare of state residents.

3. Another 10 percent of the income growth is attributable to the redistribution of income via transfer payments and a rise in investment income.

4. The remainder of the income increase, between 35 and 40 percent of the total, may be attributed to productivity gains. Productivity gains stem from a variety of factors which include increases in workers' skills, larger amounts of technologically improved capital, better management techniques, and a shift of labor resources to more productive (particularly nonagricultural) enterprises.

In connection with the last factor, it may be noted that in 1929, agriculture accounted for 28 percent of personal income in South Carolina and manufacturing for 23 percent. In 1979, the corresponding figures were 2 percent and 34 percent, respectively. In addition, there was a shift within manufacturing away from industries characterized by low productivity.

While it is not feasible to estimate directly the value of the foregoing factors in terms of their relative contributions to changes in the economic welfare of the typical South Carolinian (which is measured by per capita personal income), an indication of the roles of the several factors can be gained from the data in Table 1. This table includes several columns of data that are not really relevant to this issue, but which are included because of their usefulness for other purposes. At this point, those columns that do aid in assessing the changes in the economic welfare of South Carolina residents over the past half century will be of interest.

As previously noted, column 1 shows that personal income in South Carolina in 1979 was 44 times as large as in 1929. However, South Carolinians do not command 44 times as large a

[1] Due to technical changes in the reporting of employment data, the U.S. Department of Commerce does not provide 1929 figures that can be directly compared with recent employment levels. However, informal estimates by officials of the Bureau of Economic Analysis indicate that employment in South Carolina has approximately doubled since 1929.

TABLE 1. South Carolina Economic Growth, Selected Years 1929-'79

Year	Total Personal Income, Current Dollars (millions)	Per Capita Personal Income, Current Dollars	Employment (thousands)	Population (thousands)	Total Personal Income, Constant (1972) Dollars (millions)	Per Capita Personal Income, Constant (1972) Dollars	Disposable Personal Income, Current Dollars (millions)	Per Capita Disposable Personal Income, Current Dollars	Disposable Personal Income, Constant (1972) Dollars (millions)	Per Capita Disposable Personal Income, Constant (1972) Dollars
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1929	$ 467	$ 269	NA	1,739	$ 1,307	$ 751	$ 459*	$ 246*	$ 1,282*	$ 737*
1940	572	301	NA	1,902	1,857	977	560*	275*	1,818*	956*
1950	1,893	896	NA	2,113	3,333	1,577	1,771*	792*	3,121*	1,477*
1959	3,169	1,350	NA	2,348	4,501	1,918	2,868	1,222	4,074	1,735
1969	7,062	2,748	1,132	2,570	7,980	3,105	6,127	2,384	6,945	2,694
1970	7,668	2,951	1,155	2,598	8,290	3,190	6,715	2,584	7,256	2,794
1971	8,382	3,169	1,172	2,645	8,677	3,281	7,348	2,778	7,608	2,876
1972	9,452	3,519	1,213	2,686	9,452	3,519	8,103	3,017	8,104	3,017
1973	10,775	3,957	1,271	2,723	10,181	3,739	9,297	3,414	8,846	3,236
1974	12,229	4,407	1,307	2,775	10,457	3,768	10,541	3,798	9,022	3,249
1975	13,133	4,665	1,267	2,816	10,383	3,688	11,579	4,112	9,154	3,251
1976	14,732	5,180	1,318	2,844	11,086	3,897	12,788	4,496	9,599	3,375
1977	16,260	5,651	1,354	2,877	11,525	4,008	14,142	4,915	10,052	3,493
1978	18,347	6,292	1,409	2,918	12,118	4,153	15,882	5,473	10,623	3,641
1979	20,605	7,057	NA	2,932	12,618	4,303	17,701	6,037	10,840	3,697

Source: Bureau of Economic Analysis, U.S. Department of Commerce.
*Computed by the Division of Research, College of Business Administration, The University of South Carolina.
NA = Not available.

volume of goods and services, nor are they 44 times as affluent or better off now than 50 years earlier. The income shown in column 1 is expressed in current dollars, or in prices that prevailed in each year of the period. With prices of goods and services 4½ times as high in 1979 as in 1929, or with the dollar losing nearly 80 percent of its purchasing power over this period, the real income of South Carolinians increased at a much slower pace than did current dollar income.

The direct impact of price inflation has been removed from the figures in column 5. All income totals in that column are expressed in 1972 prices which means that each dollar had the same purchasing power in every year listed. Use of constant dollars rather than current dollars shows that, in real terms, personal income in South Carolina rose 8½ times instead of 43 times between 1929 and 1979.

This 8½-fold increase in real income was not all net gain in terms of economic well-being. The $1,307,000 aggregate of 1929 had to support a population of 1,739,000, whereas the 1979 income total of $12,618,000 was spread among 2,932,000—almost twice as many as in the earlier year.

To adjust for changes in the size of the state's population, total personal income can be converted to Per Capita Personal Income (PCPI) by dividing TPI by total population. The results of this adjustment are shown in column 6 which lists PCPI for all years in 1972 dollars. This adjustment reduces further the increase in TPI from 1929 to 1979. In real per capita terms, TPI in South Carolina rose 4½ times over the half century.

Comparison of the gains in column 1 with those in column 6 shows that adjustments for price and population increase reduce the rise in TPI from an expansion of 43-fold to one of only 4½ times. This latter figure can be regarded as a truly meaningful measure of economic progress. That is, on the average, South Carolinians in 1979 were 5½ times as well off materially as were their predecessors in 1929 (an increase of 4½ times). This statement does not address the shortcomings of using an arithmetic average to represent a characteristic of an entire population. It also does not eliminate the conceptual flaws in personal income as a measure of well-being. Despite these weaknesses, changes in real PCPI constitute the best available measure of economic progress.

Finally, one further adjustment can be made, although its usefulness for these purposes is debatable. Deducting personal taxes from TPI yields disposable income, the amount people have to spend or to save. Disposable personal income on either a total or per capita basis has many uses in economic analysis and its validity as an economic tool is unquestioned. However, its superiority over personal income, total or per capita, as a measure of economic progress is not clear. The taxes deducted from personal income were levied with the consent of the taxpayers. The programs on which taxes were expended were approved, directly or indirectly, by the taxpayers. Thus, personal

TABLE 2. Comparative State Economic Growth, 1929-'79*

Area	Percentage Growth in Total Personal Income, 1929-'79	Per Capita Personal Income as Percentage of United States Per Capita Personal Income, 1979
	(1)	(2)
	2,133.02%	100.00%
New England		
Connecticut	1,863.35	115.45
Maine	1,526.26	80.23
Massachusetts	1,223.45	101.36
New Hampshire	2,181.56	95.18
Rhode Island	1,188.42	97.00
Vermont	1,502.23	83.54
Mideast		
Delaware	2,161.31	106.31
Maryland	2,948.59	106.36
New Jersey	1,931.27	111.10
New York	1,016.59	103.77
Pennsylvania	1,230.51	97.54
Great Lakes		
Illinois	1,442.85	111.69
Indiana	2,268.84	97.68
Michigan	2,139.92	107.18
Ohio	1,712.35	99.33
Wisconsin	1,879.97	96.70
Plains		
Iowa	1,620.15	99.98
Kansas	2,017.57	105.24
Minnesota	2,197.61	101.04
Missouri	1,630.70	94.04
Nebraska	1,487.54	98.98
North Dakota	1,976.42	93.82
South Dakota	1,654.51	84.97
Southeast		
Alabama	2,986.15	79.35
Arkansas	2,508.82	79.02
Florida	9,873.21	97.41
Georgia	3,692.50	86.97
Kentucky	2,453.85	84.23
Louisiana	3,381.11	86.43
Mississippi	2,514.14	70.42
North Carolina	3,851.82	84.17
South Carolina	4,312.21	80.43
Tennessee	3,175.82	83.69
Virginia	4,150.86	97.87
West Virginia	1,675.82	84.03
Southwest		
Arizona	7,879.22	96.01
New Mexico	5,557.50	86.17
Oklahoma	2,111.06	96.99
Texas	4,086.72	100.17
Rocky Mountain		
Colorado	3,720.49	103.97
Idaho	2,895.17	86.07
Montana	1,749.52	87.58
Utah	3,370.67	82.03
Wyoming	2,759.21	113.09
Far West		
California	3,986.63	114.52
Nevada	8,743.21	119.92
Oregon	3,327.15	101.86
Washington	3,079.48	109.02
Alaska	NA	127.88
Hawaii	NA	105.12

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

*Computed by the Division of Research, College of Business Administration, The University of South Carolina.

NA = Not Available

taxes simply represent a collective expenditure of a portion of personal income. Accordingly, it is the contention of these authors that personal income, rather than disposable personal income is the better measure of economic welfare.

Despite this judgment that real personal income is the appropriate measure of economic progress of the residents of a state, real per capita *disposable* personal income is shown in column 10 for those who wish to use it. As indicated in the table, real per capita disposable income was 5 times as large in 1979 as in 1929. Thus, when adjustments are made for price increases, population growth, and increased taxes, the real purchasing power of the average South Carolinian has expanded 4+ times over the past half century. Regardless of whether personal income or disposable personal income is used as the yardstick, economic progress in South Carolina has been substantial.

RELATIVE GROWTH

The data in Table 1 show a striking record of income expansion in South Carolina. As good as South Carolina's record has been, though, perhaps it could have been even better. Despite the state's remarkable progress, the relative position of South Carolina as compared with other states in terms of the level of economic welfare is questioned. Data for economic analysis invariably are more plentiful and forecasts of economic activity are more accurate on a national basis than by geographic area. Therefore, a knowledge of state/national relationships makes possible more timely and accurate state forecasts.

South Carolina's economic growth, as outlined above, is impressive. It is even more impressive when measured against that of other states. Over the long span from 1929 to 1979, TPI in South Carolina expanded at a rate twice that of the national average (column 1, Table 2). In 1929, residents of South Carolina received just over one-half of 1 percent of the nation's total personal income. After the marked expansion of the subsequent 50 years, South Carolinians received a little more than 1 percent of the national total (Table 4). In other words, the state's share of the nation's personal income total has exactly doubled since 1929 — the result of a rate of growth twice that of the average of all states.

Is this extremely rapid economic growth rate desirable? Does it result in higher living standards for residents of the state, or does it mean more people; greater population density; more pollution;

TABLE 3. Population

Area	Total Population (thousands)		Rank*		Percentage of National Total		Percentage Growth, 1929-'79*	Rank of Percentage Growth*
	1929	1979	1929	1979	1929	1979		
United States	121,769	220,089			100.00%	100.00%	80.74%	
New England	8,130	12,290	6	7	6.68	5.58	51.17	6
Connecticut	1,594	3,115	29	24	1.31	1.42	95.42	16
Maine	797	1,097	35	38	0.65	0.50	37.64	33
Massachusetts	4,229	5,769	8	10	3.47	2.62	36.42	34
New Hampshire	467	887	41	42	0.38	0.40	89.94	19
Rhode Island	684	929	37	39	0.56	0.42	35.82	35
Vermont	369	493	45	48	0.29	0.22	33.60	38
Mideast	27,740	41,441	1	2	22.78	19.13	49.39	7
Delaware	236	582	46	47	0.19	0.26	146.61	11
Maryland	1,621	4,148	28	18	1.33	1.88	155.89	9
New Jersey	3,989	7,332	9	9	3.28	3.33	83.81	20
New York	12,171	17,648	1	2	10.00	8.02	45.00	31
Pennsylvania	9,723	11,731	2	4	7.98	5.33	20.65	42
Great Lakes	25,187	41,287	3	3	20.68	18.76	63.92	5
Illinois	7,606	11,229	3	5	6.25	5.10	47.63	30
Indiana	3,226	5,400	11	12	2.65	2.45	66.39	25
Michigan	4,795	9,207	7	7	3.94	4.18	91.04	18
Ohio	6,626	10,731	4	6	5.44	4.88	61.95	26
Wisconsin	2,934	4,720	13	16	2.41	2.14	60.87	27
Plains	13,260	17,118	4	6	10.89	7.78	29.10	8
Iowa	2,460	2,902	19	26	2.02	1.32	17.97	45
Kansas	1,867	2,369	24	32	1.53	1.08	26.89	39
Minnesota	2,572	4,060	18	19	2.11	1.84	57.85	28
Missouri	3,622	4,867	10	15	2.97	2.21	34.37	37
Nebraska	1,375	1,574	32	35	1.13	0.72	14.47	45
North Dakota	674	657	38	46	0.55	0.30	- 2.52	48
South Dakota	690	689	36	45	0.57	0.31	- .14	47
Southeast	27,152	49,893	2	1	22.30	22.67	83.75	4
Alabama	2,644	3,769	15	22	2.17	1.71	42.55	32
Arkansas	1,852	2,180	25	35	1.52	0.99	17.71	44
Florida	1,445	8,860	31	8	1.19	4.03	513.15	2
Georgia	2,903	5,117	14	14	2.38	2.32	76.27	22
Kentucky	2,606	3,527	16	23	2.14	1.60	35.34	36
Louisiana	2,086	4,018	22	20	1.71	1.83	92.62	17
Mississippi	1,998	2,429	23	31	1.64	1.10	21.57	41
North Carolina	3,133	5,606	12	11	2.57	2.55	78.93	21
South Carolina	1,739	2,932	26	25	1.43	1.33	68.60	23
Tennessee	2,604	4,380	17	17	2.14	1.99	68.20	24
Virginia	2,425	5,197	20	13	1.99	2.36	114.31	13
West Virginia	1,717	1,878	27	34	1.41	0.85	9.38	46
Southwest	8,984	19,963	5	5	7.38	9.07	122.21	3
Arizona	430	2,450	43	30	0.35	1.11	469.77	3
New Mexico	420	1,241	44	37	0.34	0.56	195.48	5
Oklahoma	2,372	2,892	21	27	1.95	1.31	21.92	40
Texas	5,762	13,380	5	3	4.75	6.08	132.21	12
Rocky Mountain	2,710	6,280	8	8	2.23	2.85	131.73	2
Colorado	1,008	2,772	33	28	0.83	1.26	175.00	6
Idaho	447	905	42	41	0.37	0.41	102.46	14
Montana	524	786	39	43	0.43	0.36	50.00	29
Utah	508	1,367	40	36	0.42	0.62	169.09	7
Wyoming	223	450	47	49	0.18	0.20	101.79	15
Far West	8,123	29,849	7	4	6.67	13.56	267.46	1
California	5,531	22,694	6	1	4.54	10.31	310.51	4
Nevada	90	702	48	44	0.07	0.32	680.00	1
Oregon	947	2,527	34	29	0.78	1.15	166.84	8
Washington	1,555	3,926	30	21	1.28	1.78	152.48	10
Alaska	NA	406	NA	50	NA	0.18	NA	NA
Hawaii	NA	906	NA	40	NA	0.41	NA	NA

Source: Bureau of Economic Analysis, U.S. Department of Commerce.
*Computed by the Division of Research, College of Business Administration, The University of South Carolina.
NA = Not available.

TABLE 4. Total Personal Income

Area	Total Personal Income (millions)		Rank*		Percentage of National Total		Percentage Growth, 1929-'79*	Rank of Percentage Growth*
	1929	1979	1929	1979	1929	1979		
United States	$85,803	$1,915,999			100.00%	100.00%	2,133.02%	
New England	7,050	108,350	6	7	8.22	5.66	1,436.87	7
Connecticut	1,580	31,021	13	21	1.84	1.62	1,863.35	34
Maine	476	7,741	35	39	0.55	0.40	1,526.26	41
Massachusetts	3,855	51,303	6	10	4.49	2.66	1,223.45	46
New Hampshire	320	7,407	37	41	0.37	0.38	2,314.68	26
Rhode Island	596	7,679	32	40	0.69	0.40	1,188.42	47
Vermont	224	3,589	45	50	0.26	0.19	1,502.23	42
Mideast	26,917	375,595	1	3	31.37	19.60	1,295.58	8
Delaware	245	5,550	43	45	0.29	0.49	2,161.31	27
Maryland	1,245	37,955	16	17	1.45	1.98	2,948.59	18
New Jersey	3,502	71,135	8	9	4.08	3.71	1,931.27	32
New York	14,379	160,555	1	2	16.76	8.38	1,016.59	48
Pennsylvania	7,546	100,400	2	5	8.79	5.24	1,230.51	45
Great Lakes	20,285	376,446	2	2	23.64	19.65	1,755.96	6
Illinois	7,291	110,302	3	4	8.50	5.76	1,412.85	44
Indiana	1,980	46,903	12	11	2.31	2.45	2,268.84	24
Michigan	3,810	85,341	7	7	4.44	4.45	2,139.92	28
Ohio	5,195	94,162	5	6	6.05	4.91	1,712.55	36
Wisconsin	2,007	39,738	11	14	2.34	2.07	1,879.97	33
Plains	7,659	144,814	4	6	8.93	7.56	1,790.76	5
Iowa	1,449	24,925	15	25	1.69	1.30	1,620.15	40
Kansas	1,013	21,451	23	29	1.18	1.12	2,017.57	29
Minnesota	1,548	35,567	14	19	1.80	1.86	2,197.61	25
Missouri	2,287	39,581	10	15	2.67	2.07	1,630.70	37
Nebraska	827	13,129	27	35	0.96	0.69	1,487.54	43
North Dakota	246	5,108	42	46	0.29	0.27	1,976.42	31
South Dakota	288	5,053	39	47	0.34	0.26	1,654.51	39
Southeast	9,970	378,638	3	1	11.62	19.76	3,697.77	3
Alabama	852	26,294	26	23	0.99	1.37	2,986.15	17
Arkansas	567	14,792	34	33	0.66	0.77	2,508.82	22
Florida	758	75,597	29	8	0.88	3.95	9,873.21	1
Georgia	1,014	38,456	21	16	1.18	2.01	3,692.50	11
Kentucky	1,014	25,896	22	24	1.18	1.35	2,453.85	23
Louisiana	863	30,042	25	22	1.01	1.57	3,381.11	12
Mississippi	573	14,979	33	32	0.67	0.78	2,314.14	21
North Carolina	1,044	41,257	20	13	1.22	2.15	3,851.82	9
South Carolina	467	20,605	36	30	0.54	1.08	4,312.21	5
Tennessee	976	31,972	24	20	1.14	1.67	3,175.82	15
Virginia	1,052	44,719	19	12	1.23	2.33	4,150.86	6
West Virginia	790	14,029	28	34	0.92	0.73	1,675.82	38
Southwest	4,255	168,911	7	5	4.96	8.82	3,869.70	1
Arizona	255	20,347	41	31	0.30	1.06	7,879.22	3
New Mexico	160	9,052	46	37	0.19	0.47	5,557.50	4
Oklahoma	1,076	23,791	18	27	1.25	1.24	2,111.06	30
Texas	2,764	115,721	9	3	3.22	6.04	4,086.72	7
Rocky Mountain	1,624	51,533	8	8	1.89	2.69	3,073.21	4
Colorado	649	24,795	31	26	0.76	1.29	3,720.49	10
Idaho	225	6,739	44	43	0.26	0.35	2,895.11	19
Montana	315	5,826	38	44	0.37	0.30	1,749.52	35
Utah	283	9,827	40	36	0.33	0.51	3,370.67	13
Wyoming	152	4,346	47	49	0.18	0.23	2,759.21	20
Far West	7,403	291,518	5	4	8.63	15.21	3,838.36	2
California	5,505	224,969	4	1	6.42	11.74	3,986.63	8
Nevada	81	7,163	48	42	0.09	0.37	8,743.21	2
Oregon	652	22,345	30	28	0.76	1.17	3,327.15	14
Washington	1,165	37,041	17	18	1.36	1.93	3,079.48	16
Alaska	NA	4,568	NA	48	NA	0.24	NA	NA
Hawaii	NA	8,474	NA	38	NA	0.44	NA	NA

Source: Bureau of Economic Analysis, U.S. Department of Commerce
*Computed by the Division of Research, College of Business Administration, The University of South Carolina
NA - Not available

more crime; and, ultimately, social decay? While the analysis in this article is based on personal income, it is obvious that other factors do enter into the overall determination of quality of life, but these cannot be explored here.

The data in the preceding section on absolute growth, taken from Table 1, indicate that South Carolina's economic growth has resulted in higher standards of living. A different perspective can be obtained by comparing South Carolina's economic growth with that of the nation which is the sum (average) of all states.

The best summary measure of the impact of the growth of TPI on economic well-being is PCPI in South Carolina as a percentage of the United States average (column 2 of Table 2). In 1929, PCPI in South Carolina was only 38 percent (Table 5) of the all-state average — less than that of any other state. Over the next 50 years, the combination of a top-ranking growth in TPI and a less-than-average increase in population pushed PCPI in the state to 80 percent of the national average — a larger relative increase than that in any other state (Table 5).

South Carolina presents a clear case in which growth in TPI was especially beneficial to residents of the state. The great increase in TPI as compared with the relatively small growth in population suggests that unused and/or underused labor resources already located in South Carolina are being utilized more fully now than 50 years ago. In addition, productivity increases in the labor supply have been exceptionally large. Data limitations do not permit the quantitative assessment of these factors and, consequently, the hypotheses cannot be proven. However, the sharp rise in PCPI in South Carolina compared with that in other states was due to more and better use of the state's human resources. Such growth must be judged to be desirable.

State differences in cost of living (not yet adequately measured) and differences of opinion about the basis of a good economic standard of living may render some of the state differences in PCPI meaningless. However, a state with PCPI 62 percent less than that of other states is comparatively poor. Such was the case in South Carolina. Since this state has succeeded in reducing the PCPI gap from 62 percent to 19 percent (1979), it clearly has made unusually great economic progress compared with other states.

Efforts to expand TPI may be counterproductive if they lead to a concomitant expansion of population. California provides an example of a situation in which TPI expansion may not represent improvement in individual economic welfare. From 1929 to 1979, TPI in California rose almost as rapidly (in percentage terms) as in South Carolina. That is, its share of the nation's total rose from 6½ percent to 12 percent (Table 4). Unlike South Carolina, however, much of this growth was supported by a vast immigration. While South Carolina's share of the nation's population declined from 1.43 percent in 1929 to 1.33 percent in 1979 (Table 3), California's share rose from 4.54 percent to 10.31 percent. Because California's tremendous increase in TPI was caused in large part by a flood of immigrants and was necessarily divided among a much larger population than before, its PCPI fell from a point 41 percent larger than that of the nation in 1929 to one only 14 percent larger in 1979 (Table 5). Thus, although both South Carolina and California experienced economic progress between 1929 and 1979 through increases in productivity, South Carolina made by far the greater relative gain in economic welfare.

SOME DISTURBING TRENDS

South Carolina's total personal income growth, which has been characterized by a strong uptrend relative to that of the nation, began to slow in 1975. The state's share of TPI has been virtually constant since 1974. That is, whereas the state's income growth rate over the long span since 1929 has been twice that of the nation, for the past 5 years the 2 have been equal.

From 1929 through 1970, population growth in South Carolina failed to keep pace with that in the nation, indicating outmigration of population. Since 1970, however, the state's population growth has exceeded that of the nation by a very small margin.

The consequence of such trends is highlighted by the changes in relative PCPI. From 1970 through 1974, the rising trend in income was sufficient to more than offset the above-average increase in population. As a result, PCPI in South Carolina, relative to that in the nation, continued to rise, although at a lesser rate than prior to 1970. Since 1974, however, income and population growth have combined to hold the state's PCPI steady as a percentage of that in the nation.

Total Personal Income

In the early 1970's, the state continued its established above-average rate of income growth. With the onset of the 1974-'75 recession, a series of

TABLE 5. Per Capita Personal Income

Area	Per Capita Personal Income		Rank*		Percentage of National Average		Percentage Growth, 1929-'79*	Rank of Percentage Growth*
	1929	1979	1929	1979	1929	1979		
United States	$ 705	$ 8,773			100.00%	100.00%	1,144.39%	
New England	867	8,910	3	4	122.97	101.56	927.68	7
Connecticut	991	10,129	3	4	140.56	115.45	922.09	42
Maine	597	7,039	25	47	84.68	80.23	1,079.06	36
Massachusetts	912	8,893	6	16	129.36	101.36	875.10	46
New Hampshire	685	8,351	16	31	97.16	95.18	1,119.12	33
Rhode Island	871	8,510	9	28	123.54	97.00	877.03	45
Vermont	625	7,329	21	41	88.65	83.54	1,072.64	38
Mideast	977	9,112	1	3	138.58	103.86	932.65	8
Delaware	1,637	9,527	2	9	147.09	106.51	799.42	48
Maryland	768	9,331	13	12	108.93	106.36	1,114.97	34
New Jersey	878	9,747	8	6	124.53	111.10	1,010.13	40
New York	1,181	9,104	1	13	167.51	103.77	670.87	47
Pennsylvania	776	8,558	12	22	110.07	97.54	1,002.83	41
Great Lakes	805	9,118	4	2	114.18	103.93	1,032.67	5
Illinois	959	9,799	5	5	136.02	111.69	921.79	43
Indiana	614	8,570	22	24	87.09	97.68	1,295.76	27
Michigan	794	9,403	10	11	112.62	107.18	1,084.25	35
Ohio	784	8,715	11	18	111.20	99.33	1,011.60	39
Wisconsin	684	8,484	17	27	97.02	96.70	1,140.35	32
Plains	578	8,628	6	5	81.98	98.34	1,392.73	3
Iowa	589	8,772	28	19	83.54	99.98	1,389.30	21
Kansas	543	9,233	30	20	77.02	105.24	1,600.36	16
Minnesota	602	8,865	23	17	85.39	101.04	1,372.59	22
Missouri	531	8,251	20	32	75.31	94.04	1,453.86	19
Nebraska	602	8,684	24	26	85.39	98.98	1,342.52	25
North Dakota	365	8,231	42	29	51.77	93.82	2,155.06	3
South Dakota	417	7,455	37	45	59.14	84.97	1,687.76	15
Southeast	367	7,624	8	8	52.1	86.90	1,977.38	1
Alabama	322	6,962	45	46	45.67	79.35	2,062.11	6
Arkansas	306	6,933	46	49	43.40	79.02	2,165.68	2
Florida	525	8,546	31	25	74.46	97.41	1,527.80	17
Georgia	349	7,630	43	36	49.50	86.97	2,086.24	5
Kentucky	389	7,390	39	40	55.17	84.23	1,799.74	11
Louisiana	414	7,583	38	37	58.72	86.43	1,731.64	13
Mississippi	287	6,178	47	50	40.70	70.42	2,052.61	7
North Carolina	333	7,385	44	39	47.23	84.17	2,117.71	4
South Carolina	269	7,057	48	48	38.15	80.43	2,523.42	1
Tennessee	375	7,343	41	44	53.19	83.69	1,858.13	10
Virginia	434	8,587	36	23	61.56	97.87	1,878.57	9
West Virginia	460	7,372	34	38	65.24	84.03	1,502.60	18
Southwest	474	8,627	7	6	67.23	98.35	1,720.04	2
Arizona	593	8,423	27	30	84.11	96.01	1,320.40	26
New Mexico	381	7,560	40	42	54.04	86.17	1,884.25	8
Oklahoma	454	8,509	35	33	64.39	96.99	1,774.22	12
Texas	480	8,788	33	21	68.08	100.17	1,730.83	14
Rocky Mountain	599	8,357	5	7	84.96	95.25	1,295.15	4
Colorado	644	9,122	19	14	91.34	103.97	1,316.45	24
Idaho	502	7,571	32	34	71.20	86.07	1,408.16	20
Montana	601	7,684	25	35	85.24	87.58	1,178.53	30
Utah	558	7,197	29	43	79.14	82.03	1,189.78	29
Wyoming	683	9,922	18	7	96.87	113.09	1,352.70	23
Far West	911	9,901	2	1	129.21	112.85	986.82	6
California	995	10,047	4	5	141.13	114.52	909.74	44
Nevada	896	10,521	7	2	127.09	119.92	1,074.21	37
Oregon	689	8,938	15	15	97.73	101.88	1,197.24	28
Washington	749	9,565	14	8	106.24	109.02	1,177.03	31
Alaska	NA	11,219	NA	1	NA	127.88	NA	NA
Hawaii	NA	9,223	NA	10	NA	105.12	NA	NA

Source: Bureau of Economic Analysis, U.S. Department of Commerce

*Computed by the Division of Research, College of Business Administration, The University of South Carolina

NA - Not available

deviations from trend occurred. In 1974, income growth accelerated, pushing the state's share of TPI up sharply. In 1975, as income growth lagged, about half of the relative gain made in 1974 was lost. In 1976, this loss was recovered. From 1976 through 1979, income growth in South Carolina no more than matched that in the nation, and the state's share held approximately constant at 1.07-1.08 percent. Since it is extremely difficult, if not impossible, to disentangle cyclical effects from trend, the long-term effects of recent period changes in income are difficult to evaluate.

The 1974-'75 recession in South Carolina lagged behind the national cycle. This was to be expected as much of the state's industrial output is used as input to other industries rather than sold directly to the ultimate consumer. Accordingly, TPI held up well in 1974, the first year of the recession.

The increased 1974 share reflected relative gains in most major industries, except manufacturing. Farming, construction, trade, and government made substantial relative gains. A small relative decline in the state's large manufacturing industry, mainly the product of large declines in textiles and apparel, was nearly offset by moderate advances in the state's developing metals, machinery, chemical, and rubber manufacturing industries. Finally, a doubling of transfer payments, compared with a 50 percent increase nationally, added substantially to the state's income share.

In 1975, the full force of the recession struck the South Carolina economy and its rate of growth, as measured by a declining share, fell behind that of the nation. Nearly every major industry grew at a less-than-average rate, although the cutback in textiles, agriculture, and construction contributed most to the relative lag. As in 1974, government payrolls (mainly state and local) and transfer payments provided some offset to declining industries.

Recovery in 1976 was widespread, with most industries growing at above-average rates. Manufacturing provided most of the impetus, with the recovery of textiles and apparel the main element. However, chemicals, rubber, machinery, and metals manufacturing all continued to add to the pickup in economic activity. Relative declines in farm income and in transfer payments dampened somewhat the growth of TPI. The decline in transfer payments reflected mainly the drop in unemployment compensation, an indication of recovery from recession.

Subsequent to the recovery of 1976, the state's economy has proceeded at an average pace. Most industries have grown at a somewhat faster-than-average rate, but these have been cancelled by large relative declines in transfer payments and in Federal payrolls. The former is a reflection of continuing recovery and must be regarded as an element of strength in the state's economy. The relative lag in Federal payrolls reflects national political decisions and, although Federal payrolls have significant impact upon the state's economy, they indicate neither emerging strength nor emerging weakness in the basic economy.

Most regional analyses of long-term economic trends would examine the changes between 1973 and 1979, two years in which a peak in the business cycle was reached. Use of two such points normally eliminates the distorting effect of the differential regional impact of the business cycle and allows basic trends to be identified. If this thesis holds in the situation here, the strong growth trend in the South Carolina economy, which has been in evidence since 1929, appears to be continuing, although at a substantially reduced pace. However, because most of the state's above-average growth rate since 1973 originated in cyclical developments during 1974-'76, its permanency is subject to question. Moreover, the question cannot be resolved in the immediate future because the recession which is now underway will once again cause a mixing and blurring of cyclical and trend effects. It may well be 1985 or later before the true long-term economic trend of TPI in South Carolina can be determined. One point should be kept in mind: South Carolina's income uptrend in both TPI and PCPI ceased over the decade of the 1950's when the textile and apparel industries showed little growth, either nationally or in South Carolina. With the acceleration of economic activity generally from 1960 to 1973, South Carolina again resumed its above-average income growth rate.

Per Capita Personal Income

The second, more pronounced and even more disturbing trend is related to PCPI. In absolute terms, PCPI in South Carolina continued to rise steadily even after adjustment for prices and taxes. However, the rate of increase since 1973 has only approximated that in the nation. As a result, over the past 6 years (1973 to 1979), average income in South Carolina has ranged between 79 percent and 81 percent of the national average.

This failure to continue to narrow the PCPI gap further reflects two factors. First, as noted, the growth in TPI in South Carolina relative to that in

the United States slowed considerably in 1973 and has been almost nonexistent since 1974. Coupled with this development is the fact that population has been growing faster in this state than in the nation since 1970. From 1929 to 1970, total population in South Carolina grew more slowly than in the nation. These two factors — a slowing in the rate of income growth and a quickening in the rate of population growth — have combined to hold PCPI in the state approximately stationary relative to that in the nation.

If both TPI and total population continue to grow at the same pace relative to national rates, the state cannot improve its PCPI position. It is not feasible to limit population growth within the state, especially in view of the current general attractiveness of the "Sunbelt" as a place to live and work. Therefore, an appropriate policy designed to close the income gap and avoid excessive population growth would be one designed to induce economic growth in those counties with high unemployment and underemployment (after recovery from the current recession). This, undoubtedly, will require further upgrading of the skills of the labor force in such areas. Accompanying such a policy could be an effort to attract, to all areas, industries with higher wage scales.

Cyclical Sensitivity

The sensitivity of the South Carolina economy can be measured in terms of its cyclical swing. Cyclical swing is the difference between the annual growth rates of personal income during a period of economic expansion versus a period of recession. For example, personal income in South Carolina expanded at an average rate of 11.8 percent through the growth years 1976-'79. During the 1973-'75 recession, the state's economy grew at only an average 3.2 percent rate. Thus, the cyclical swing for this most recent cycle was 8.6 percent (11.8-3.2). In contrast, the average swing among the 50 states was only 4.2 percent. Clearly, South Carolina was highly sensitive to the severe recessionary pressures of 1973-'75, ranking 5th in cyclical swing among the states. In the Southeast, only North Carolina, with a 9.4 swing (4th nationally), was more sensitive.

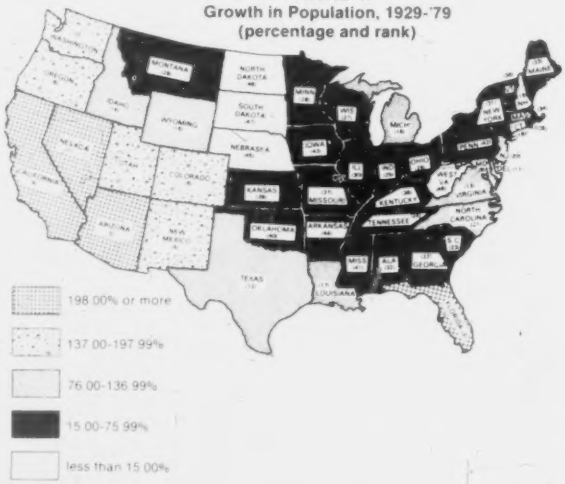
This continues a pattern of cyclical sensitivity that has characterized the South Carolina economy since World War II. Over this period, the state's cyclical swing has averaged 10.9 percent as compared with the national figure of 7.8 percent. This leads to a ranking of 4th in swing during the post-war era — the highest among all the Southeastern states.

Naturally, most of South Carolina's pronounced cyclicality can be attributed to the dominance of textiles. However, durable goods manufacturing, transportation, communications, and public utilities also contributed to the state's rather Draconian swing pattern to a degree not generally recognized.

COMPARATIVE ECONOMIC DEVELOPMENT: SOUTH CAROLINA, THE SOUTHEAST, AND THE UNITED STATES

South Carolina's economic growth and development relative to that of the Southeastern region and the nation can be assessed through a comparison of population, TPI, and PCPI trends. Table 3 and Figure 1 document state population changes, 1929-'79. As indicated in Table 3, since 1929, South Carolina has gained population at a rate of 68.6 percent, somewhat below the national average rate of 80.7 percent and well below the Southeast average of 83.8 percent. Thus, the state has ranked 23rd nationally and 6th in the Southeast in terms of population growth over the last five decades.

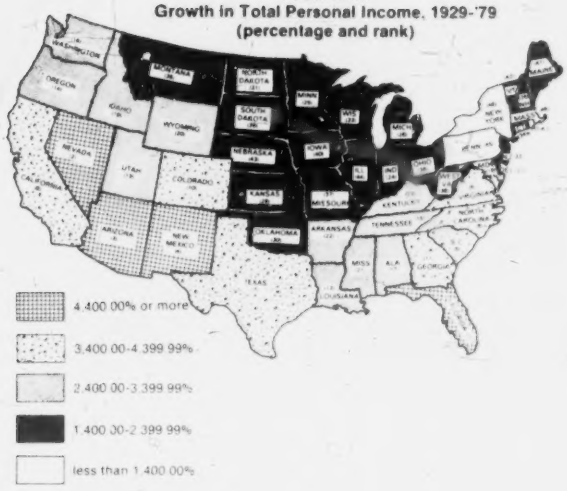
FIGURE 1.
Growth in Population, 1929-'79
(percentage and rank)



As detailed in Table 4 and Figure 2, South Carolina has had the 5th fastest rate of economic growth at the national level as measured by TPI. In the Southeast, this performance has been exceeded only by Florida which ranked 1st nationally.

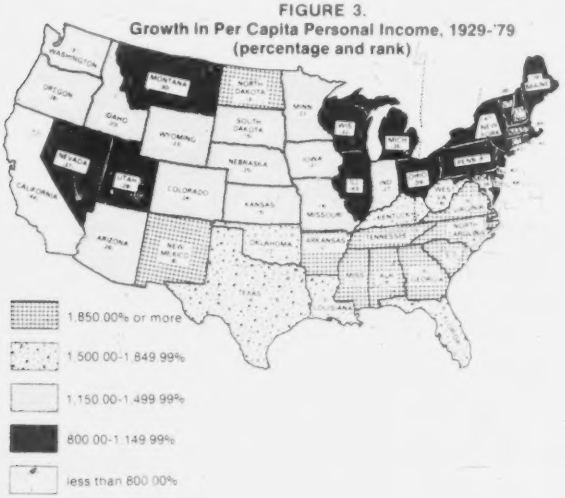
Given the state's slow growth in population and rapid growth in TPI, it comes as no surprise that on a per capita basis income has grown substantially. As shown in Table 5 and Figure 3, South

FIGURE 2.
Growth in Total Personal Income, 1929-'79
(percentage and rank)



Carolina's PCPI growth rate has exceeded that of all other states in the nation for the period 1929-'79. Something that is both surprising and somewhat disconcerting is pointed out in Table 5. South Carolina began (1929) in 48th place with respect to PCPI and ended (1979) with the same rank, in spite of its #1 ranking in terms of PCPI growth. Clearly, South Carolina has had to run harder just to stay even. However, more progress is indicated by the fact that South Carolina's PCPI was only 38 percent of the national average in 1929 but had reached 80 percent by 1979.

FIGURE 3.
Growth in Per Capita Personal Income, 1929-'79
(percentage and rank)

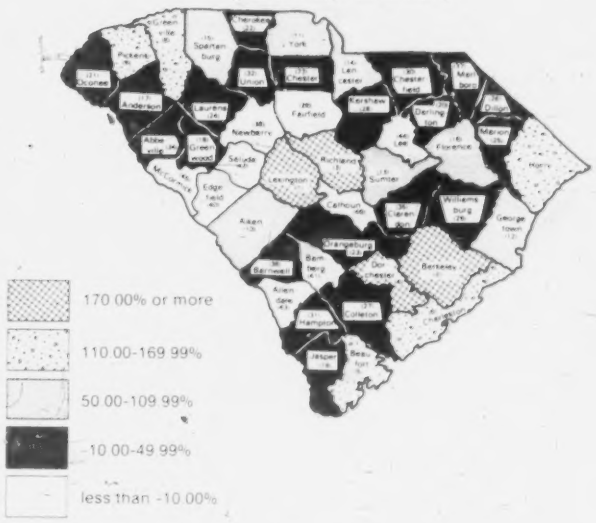


In summary, the South Carolina economy has manifested significant progress when compared with other states in the Southeast and the nation from 1929 to 1979. This is true in terms of both TPI and average economic welfare of the state's citizenry (PCPI). Again, there is cause for concern that South Carolina PCPI, as a percentage of the national average, has not improved meaningfully in the last decade.

COMPARATIVE ECONOMIC DEVELOPMENT AMONG SOUTH CAROLINA COUNTIES

The final section of this review will examine the relative economic development of the 46 counties of the state. Once again, the comparison will be based on the TPI and PCPI measures, but the data used will be 1978 as that is the latest available at the county level.

FIGURE 4.
Growth in Population, 1929-'78
(percentage and rank)



As is widely recognized, the last 50 years have witnessed a marked shift in population from rural to urban areas, particularly to those counties adjacent to the state's larger cities. This trend is reflected in the fact that, with the exception of Horry, the 10 counties with the fastest population growth between 1929 and 1978 were located in 1 of South Carolina's 4 Standard Metropolitan Statistical Areas.[2] Table 6 and Figure 4 provide detailed records of population changes in the state's counties during this period.

Table 7 and Figure 5 summarize the changes in total economic output, TPI, by counties during the

[2] South Carolina SMSA's include Charleston (Berkeley, Dorchester, and Charleston Counties), Columbia (Richland and Lexington), and Greenville-Spartanburg (Greenville, Spartanburg, and Pickens). In addition, Aiken County is part of the Augusta, Georgia, SMSA.

TABLE 6. Population

County	Population (thousands)		Rank		Percentage of State Total		Percentage Growth 1929-'78*	Rank of Percentage Growth*
	1929	1978	1929	1978	1929	1978		
South Carolina	1,739.0	2,917.6			100.00%	100.00%	67.78%	
Abbeville	23.3	22.2	52	55	1.34	0.76	- 4.72	34
Aiken	47.4	99.2	9	8	2.73	3.40	109.28	10
Allendale	13.3	10.2	44	45	0.76	0.35	- 23.31	43
Anderson	81.0	120.3	5	6	4.66	4.12	48.52	17
Bamberg	19.4	16.5	38	41	1.12	0.57	- 14.95	41
Barnwell	21.2	19.6	37	37	1.22	0.67	- 7.55	36
Beaufort	21.8	57.8	35	15	1.25	1.98	165.14	5
Berkeley	22.2	76.0	34	13	1.28	2.60	242.34	2
Calhoun	16.7	11.4	43	44	0.96	0.39	- 31.74	46
Charleston	101.1	260.6	3	2	5.81	8.93	157.76	6
Cherokee	32.2	41.7	21	22	1.85	1.43	29.50	22
Chester	31.8	30.7	23	29	1.83	1.05	3.46	33
Chesterfield	34.3	35.2	18	26	1.97	1.21	2.62	30
Clarendon	30.0	28.1	25	34	1.73	0.96	- 6.33	35
Colleton	25.8	29.9	29	32	1.48	1.02	15.89	27
Darlington	41.4	57.0	12	16	2.38	1.95	37.68	20
Dillon	25.7	30.2	30	30	1.48	1.04	17.51	26
Dorchester	19.0	52.3	40	18	1.09	1.79	175.26	4
Edgefield	19.3	16.7	39	40	1.11	0.57	- 13.47	40
Fairfield	23.3	20.3	33	36	1.34	0.70	- 12.88	39
Florence	61.0	101.8	7	7	3.51	3.49	66.89	16
Georgetown	21.7	40.1	36	23	1.25	1.37	84.79	12
Greenville	117.0	271.8	1	1	6.73	9.32	132.31	8
Greenwood	36.1	53.6	15	17	2.08	1.84	48.48	18
Hampton	17.2	17.4	42	39	0.99	0.60	1.16	31
Horry	39.4	91.8	13	10	2.27	3.15	132.99	7
Jasper	10.0	14.7	45	43	0.58	0.50	47.00	19
Kershaw	32.1	35.8	22	25	1.85	1.23	11.53	28
Lancaster	28.0	48.3	27	20	1.61	1.66	72.50	14
Laurens	42.1	51.2	11	19	2.42	1.75	21.62	24
Lee	24.1	17.6	31	38	1.39	0.60	- 26.97	44
Lexington	36.5	130.5	14	5	2.10	4.47	257.53	1
McCormick	11.5	8.0	46	46	0.66	0.27	- 30.43	45
Marion	27.2	33.0	28	27	1.56	1.13	21.32	25
Marlboro	31.6	28.5	24	33	1.82	0.98	- 9.81	37
Newberry	34.7	30.8	17	28	2.00	1.06	- 11.24	38
Oconee	33.4	44.8	20	21	1.92	1.54	34.13	21
Orangeburg	63.9	79.0	6	12	3.67	2.71	23.63	23
Pickens	33.7	72.5	19	14	1.94	2.48	115.13	9
Richland	87.7	249.5	4	3	5.04	8.55	184.49	3
Saluda	18.2	14.8	41	42	1.05	0.51	- 18.68	42
Spartanburg	116.3	196.8	2	4	6.69	6.75	69.22	15
Sumter	45.9	83.8	10	11	2.64	2.87	82.57	13
Union	30.9	30.2	26	31	1.78	1.04	- 2.27	32
Williamsburg	34.9	36.3	16	24	2.01	1.24	4.01	29
York	53.4	98.7	8	9	3.07	3.38	84.83	11

Source: Bureau of Economic Analysis, U.S. Department of Commerce.
*Computed by the Division of Research, College of Business Administration, The University of South Carolina.
NA = Not available

TABLE 7. Total Personal Income

County	Total Personal Income (millions)		Rank*		Percentage of State Total		Percentage Growth, 1929-'78*	Rank of Percentage Growth*
	1929	1978	1929	1978	1929	1978		
South Carolina	$467.4	$18,357.4			100.00%	100.00%	3,827.56%	
Abbeville	4.8	123.1	31	34	1.03	0.67	2,464.58	35
Aiken	12.4	709.9	9	7	2.65	3.87	5,625.00	7
Allendale	1.7	42.7	45	45	0.36	0.23	2,411.76	38
Anderson	22.3	781.2	5	6	4.77	4.26	3,403.13	20
Bamberg	3.3	82.3	38	40	0.71	0.45	2,393.93	39
Barnwell	3.8	114.4	36	36	0.81	0.62	2,910.52	29
Beaufort	6.7	425.7	20	13	1.43	2.32	6,253.73	6
Berkeley	2.9	375.4	41	15	0.62	2.04	12,844.82	2
Calhoun	2.6	65.7	42	43	0.56	0.36	2,426.92	37
Charleston	49.7	1,778.4	1	3	10.63	9.69	3,478.26	19
Cherokee	7.9	246.0	15	23	1.69	1.34	3,013.92	27
Chester	7.1	180.2	18	27	1.52	0.98	2,438.02	36
Chesterfield	5.2	203.8	29	25	1.11	1.11	3,819.23	17
Clarendon	4.6	110.3	32	37	0.98	0.60	2,297.82	43
Colleton	5.9	145.5	27	31	1.26	0.79	2,366.10	40
Darlington	6.9	330.8	19	17	1.48	1.80	4,694.20	9
Dillon	4.9	137.6	30	32	1.05	0.75	2,708.16	32
Dorchester	4.3	307.0	33	19	0.92	1.67	7,039.53	3
Edgefield	3.7	90.0	37	39	0.79	0.49	2,332.42	42
Fairfield	4.1	116.4	35	35	0.88	0.63	2,739.02	31
Florence	17.8	615.4	6	9	3.81	3.35	3,357.30	21
Georgetown	4.2	213.3	34	24	0.90	1.16	4,978.57	8
Greenville	49.0	1,951.7	2	1	10.48	10.63	3,983.06	15
Greenwood	11.9	338.8	10	16	2.55	1.85	2,747.05	30
Hampton	3.0	98.5	40	38	0.64	0.54	3,183.33	24
Horry	8.8	567.0	13	10	1.88	3.09	6,343.18	5
Jasper	1.3	59.0	46	44	0.28	0.32	4,438.46	12
Kershaw	6.1	257.0	25	23	1.31	1.40	4,113.11	14
Lancaster	6.6	279.5	21	20	1.41	1.52	4,134.84	13
Laurens	9.6	316.4	11	18	2.05	1.72	3,195.83	23
Lee	2.6	79.1	43	42	0.56	0.43	2,942.30	28
Lexington	6.6	862.7	22	5	1.41	4.70	12,971.21	1
McCormick	2.2	36.5	44	46	0.47	0.20	1,559.09	46
Marion	6.4	170.9	24	28	1.37	0.93	2,570.31	33
Marlboro	6.0	131.3	26	33	1.28	0.72	2,088.33	45
Newberry	8.3	202.0	14	26	1.78	1.10	2,333.73	41
Oconee	6.6	268.9	23	21	1.41	1.46	3,974.24	16
Orangeburg	12.8	412.8	8	14	2.74	2.25	3,125.00	25
Pickens	7.2	437.1	17	12	1.43	2.38	5,970.83	4
Richland	47.9	1,843.9	3	2	10.25	10.04	3,749.47	18
Saluda	3.1	81.5	39	41	0.66	0.44	2,529.03	34
Spartanburg	38.5	1,315.4	4	4	8.24	7.17	3,316.62	22
Sumter	9.6	460.0	12	11	2.05	2.51	4,691.66	10
Union	7.5	167.8	16	29	1.60	0.91	2,137.33	44
Williamsburg	5.3	166.0	28	30	1.13	0.90	3,032.07	26
York	13.8	658.3	7	8	2.95	3.59	4,670.28	11

Source: Bureau of Economic Analysis, U.S. Department of Commerce
*Computed by the Division of Research, College of Business Administration, The University of South Carolina
NA = Not available

TABLE 8. Per Capita Personal Income

County	Per Capita Personnel Income				Percentage of State Total		Percentage Growth	Rank of Percentage Growth*
			Rank*					
	1929	1978	1929	1978	1929	1978	1929-'78*	
South Carolina	$269	$6,292			100.00%	100.00%	2,239.03%	
Abbeville	204	5,543	23	29	75.83	88.09	2,617.15	24
Aiken	262	7,157	9	5	97.39	113.74	2,631.67	22
Allendale	127	4,186	45	44	47.21	66.52	3,196.06	8
Anderson	276	6,495	8	11	102.60	103.22	2,253.26	37
Bamberg	172	4,982	37	36	63.94	79.17	2,796.51	16
Barnwell	178	5,844	33	21	66.17	92.87	3,183.14	9
Beaufort	306	7,364	6	2	113.75	117.03	2,306.53	35
Berkeley	132	4,937	43	37	49.07	78.46	3,640.15	4
Calhoun	156	5,754	39	25	57.99	91.44	3,588.46	5
Charleston	492	6,825	2	6	182.89	108.47	1,287.19	45
Cherokee	244	5,894	11	18	90.70	93.67	2,315.57	34
Chester	224	5,861	19	20	83.27	93.15	2,516.31	26
Chesterfield	152	5,789	41	23	56.50	92.00	3,708.55	2
Clarendon	154	3,920	40	46	57.24	62.30	2,445.45	30
Colleton	228	4,875	16	38	84.75	77.47	2,038.15	40
Darlington	167	5,801	38	22	62.08	92.19	3,375.65	7
Dillon	192	4,556	26	42	71.37	72.40	2,272.91	36
Dorchester	225	5,864	18	19	83.64	93.19	2,506.22	27
Edgefield	189	5,375	28	32	70.26	85.42	2,743.91	17
Fairfield	178	5,725	34	26	66.17	90.98	3,116.29	11
Florence	292	6,044	7	15	108.55	96.05	1,969.86	41
Georgetown	191	5,325	27	33	71.00	84.63	2,687.95	19
Greenville	419	7,182	3	3	155.76	114.14	1,614.08	44
Greenwood	330	6,318	5	12	122.67	100.41	1,814.54	43
Hampton	174	5,644	35	27	64.68	89.70	3,143.67	10
Horry	223	6,174	20	13	82.89	98.12	2,668.60	20
Jasper	132	4,003	44	45	49.07	63.62	2,932.57	14
Kershaw	189	7,172	29	4	70.26	113.98	3,694.70	3
Lancaster	235	5,789	14	24	87.36	92.00	2,363.40	31
Laurens	227	6,174	17	14	84.38	98.12	2,619.82	23
Lee	108	4,484	46	43	40.14	71.26	4,051.85	1
Lexington	181	6,610	32	9	67.30	105.05	3,551.93	6
McCormick	189	4,569	30	40	70.26	72.61	2,317.46	33
Marion	235	5,186	15	35	87.36	82.42	2,106.80	39
Marlboro	189	4,609	31	39	70.26	73.25	2,338.62	32
Newberry	239	6,553	13	10	88.84	104.14	2,641.84	21
Oconee	197	6,008	25	17	73.23	95.48	2,949.74	13
Orangeburg	201	5,227	24	34	74.72	83.07	2,500.49	28
Pickens	213	6,029	21	16	79.18	95.82	2,730.51	18
Richland	547	7,389	1	1	203.34	117.43	1,250.82	46
Saluda	173	5,509	36	30	64.31	87.55	3,084.39	12
Spartanburg	331	6,684	4	7	123.04	106.23	1,919.33	42
Sumter	209	5,489	22	31	77.69	87.23	2,526.31	25
Union	242	5,538	12	28	89.96	88.01	2,188.42	38
Williamsburg	151	4,569	42	41	56.13	72.61	2,925.82	15
York	259	6,672	10	8	96.28	106.03	2,476.06	29

Source: Bureau of Economic Analysis, U.S. Department of Commerce
*Computed by the Division of Research, College of Business Administration, The University of South Carolina
NA - Not available

FIGURE 5.
Growth in Total Personal Income, 1929-'78
(percentage and rank)

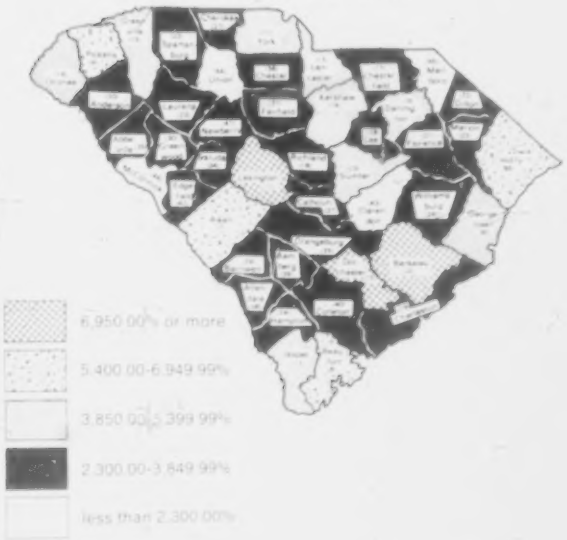
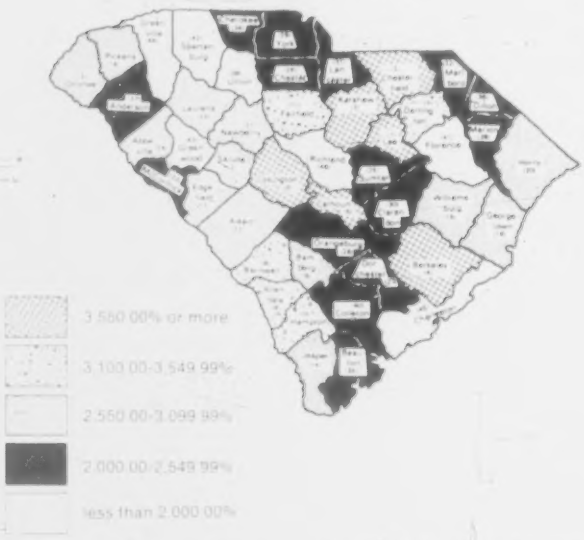


FIGURE 6.
Growth in Per Capita Personal Income, 1929-'78
(percentage and rank)



1929-'78 period. As indicated in Table 7, there has been remarkably little change in the relative TPI rankings during the period covered. However, TPI growth rates have varied considerably with both rural and urban counties represented among those with high growth rates. Once again, the SMSA counties dominate in terms of TPI and (particularly the suburban SMSA counties such as Berkeley, Dorchester, and Lexington) share of state TPI.

Table 8 and Figure 6 document the remarkable growth in PCPI in all South Carolina counties over the past 50 years. It is interesting to note that while, once again, mostly metropolitan counties are found among the top ranking counties in PCPI, several nonmetropolitan counties (Allendale, Bamberg, Calhoun, Chesterfield, Darlington, Fairfield, Hampton, Kershaw, Lee, and Saluda) have led in PCPI growth. Another very noteworthy trend is the convergence of the county PCPI figures over the 1929-'78 period. In 1929, there was a range of from 40.1 percent of the state average PCPI (Lee County) to 203.3 percent (Richland County). By 1978, this range had narrowed from 62.3 percent (Clarendon County) to 117.4 percent (Richland County). Moreover, only 14 counties had PCPI figures that were less than 85 percent of the state average, whereas 31 counties were below this level in 1929.

SUMMARY

This article has attempted to review the remarkable economic progress achieved in South Carolina over the last half century. Despite tremendous growth in absolute terms, the typical South Carolinian still enjoys only 80 percent of the national average income. More ominously, little progress has been made in the last 10 years toward closing this income gap. Finally, all 46 counties have shared in the state's economic progress, and the income gap between "rich" and "poor" counties has been substantially reduced.

Coming This Spring . . .

Our March, April, and May issues of the *Business and Economic Review* will feature articles on industrial locational factors, workmen's compensation, disciplinary problems and discharge, the cost of education to industry, the energy situation, and more!

A Legislative Bombshell: The Depository Institutions Deregulation and Monetary Control Act of 1980[1]

By Arthur E. Warner

On March 31, 1980, the President of the United States signed a bill (H.R. 4986) that may revolutionize the ways financial services are provided to corporations, business firms, consumers, and others in the United States. The Depository Institutions Deregulation and Monetary Control Act of 1980 calls for changes in this nation's banking industry that may surpass in importance passage of the Federal Reserve Act in 1913. The changes are fundamental and will alter the ways of doing business for all regulated depository institutions, including commercial banks, mutual savings banks, savings banks, savings and loan associations, and credit unions. Just a few of these developments will include a significant increase in competition among the regulated depository financial institutions; a further increase in the costs of running a bank or thrift institution; and a transformation of, or possibly squeeze on, profits earned by financial institutions. This article includes a review of recent legislative history of financial institutional regulation; a summary of the most important provisions of the act; an analysis of the implications of the law for regulated institutions, consumers, and the public; and some projections for the future.

[1] Public Law 96-221, March 31, 1980.

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RECENT LEGISLATIVE HISTORY

The evolution of laws and regulations governing financial institutions in the United States is a story of recurring changes in response to economic, political, and social forces. Change has been sporadic: relative short periods of rapid alteration have been followed by fairly long intervals of slow evolutionary growth. During recent years trends have emerged that will influence significantly the structure of the financial system during the remaining years of the twentieth century. While there have been several indicators of change, the most important are the profound shift in regulatory philosophy, the technological developments in data processing and communications, the innovative responses to regulatory actions and competitive forces by imaginative financial executives, and the increase in international financial marketing activities and movement of funds across national boundaries.

The attitude and philosophy of Federal regulatory agencies until quite recently evolved from developments during the early years of this century.[2] After passage of the Federal Reserve Act in 1913, competition between Federal and state agencies in chartering new banks increased sharply. During the first two decades of this century, for example, the number of banks increased from 13,000 to nearly 31,000. The attitude of regulators, both Federal and state, was to offer incentives to organize by providing a relatively open and simplified regulatory environment. Many of these banks were poorly capitalized and dependent on a single industry. As a result, they were highly vulnerable to swings of the business cycle.

The advent of the Great Depression, which began in some sectors of the economy in the later

[2] See Aubrey N. Snellings, "The Financial Services Industry: Recent Trends and Future Prospects," **Economic Review**, Federal Reserve Bank of Richmond (January/February 1980), for an expansion of this view.

years of the roaring '20's brought about an almost total collapse of the banking system. The number of bank failures during the late '20's and prior to the first inauguration of Franklin D. Roosevelt was around 11,500. Early action by the Roosevelt Administration included the now famous Bank Holiday and the institution of financial reform as a centerpiece of the New Deal program designed to stimulate economic recovery. A sweeping array of changes in laws and regulations governing financial institutions unprecedented in the history of the country followed as a part of the reform movement.

In light of the conditions that prevailed and the attitudes of politicians, regulators, the institutions themselves, and the general public, it is not surprising that the primary concern of the reform legislation was protecting the safety and solvency of the depository institutions as a means of inspiring public confidence in them. New agencies were created to insure deposits and to supervise the institutions much more closely than before. This emphasis on safety and protection of the public interest became the guiding philosophy of the regulatory agencies and prevailed until passage of the deregulation and monetary control act in March 1980.

Among the regulatory practices that originated during the reform years of the 1930's were prohibition of interest on demand deposits, interest rate ceilings on time and saving deposits, stringent limitations on merging and branching, barriers to entry that limit competition, and a severe segmentation of the industry with many institutions (thrifts and credit unions in particular) limited to a narrow range of lending and investment activities. The prevailing philosophy was "Do only what you are specifically authorized to do: anything else is prohibited."

This rather narrow restrictive view stood during the more than 40 years that followed the 1933 reform. It met with considerable success in stemming the flood of massive failures: during these years the number of financial institutions failing each year was negligible. One price, however, has been to place the depository institutions in a straitjacket that has made them one of the most highly regulated groups of industries in the United States.

Concern over the extent of regulation and a growing awareness that perhaps both business firms and the public might be served better by a less restricted financial industry brought about the creation in 1971 of a special commission to review the overall structure of the regulated depository financial institutions. While the commission was established by President Richard M. Nixon in response to the shortfall (credit crunch) in availability of credit that occurred in 1969-'70, roots for such a review, in fact, had been planted firmly in the reform legislation of the 1930's.

The commission; which became known as the Hunt Commission because its Chairman was Reed O. Hunt, former Chairman of the Board of Crown Zellerbach, conducted a thorough study that resulted in a published report with 108 specific recommendations.[1] The objective and thrust of the report was to move as far as possible toward freeing financial markets from excessive regulation and providing all institutions with powers necessary to compete in freely competitive markets. The essence of the recommendations was to remove all restrictions on regulated institutions that restrain competition among depository institutions including interest rate ceilings and limitations on the types of loan and investment powers open to banks and thrift institutions.

Congress did not take immediate action on the Hunt report, however. In 1973, the U.S. Department of the Treasury endorsed a program for reform based on the report. These recommendations were incorporated in a financial institutions act introduced in Congress that year. No legislative action was forthcoming, however, until 1975 when the Senate passed the Financial Institutions Act, a somewhat modified version of the Treasury proposal. The House of Representatives did not concur with the Senate Bill; rather, it conducted its own background study that year called "Financial Institutions in the Nation's Economy" (Fine Study). The Fine Study was at odds with the Senate Bill in several respects related especially to interest rate differentials and the role of thrift institutions. As a result of several substantive differences between the House and Senate versions, nothing of significance was done on overall financial reform until 1979 when changes occurred in economic conditions that altered political views of legislators in both Houses of Congress. Consumer interests were given increased attention as rampant inflation put pressure on Congress to raise ceilings on savings accounts. At the same time interest rates on loans skyrocketed to record high levels and member banks began fleeing the Federal Reserve System in unprecedented numbers. The culmination of years of study, congressional foot

[1] See **The Report of the President's Commission on Financial Structure and Regulation** (Washington, D.C. Government Printing Office, December 1971) for a complete listing of recommendations.

dragging and reluctance to act decisively, regulatory alarm, and rising public unrest was enactment of the most revolutionary financial regulatory bill ever passed by Congress and signed by a President of the United States. This act, the Depository Institutions Deregulation and Monetary Control Act of 1980, was signed into law by President Carter on March 31, 1980. The most important features of this piece of legislation are summarized below.

FEATURES OF THE DEPOSITORY INSTITUTIONS DEREGULATION AND MONETARY CONTROL ACT OF 1980

The essential features of the Depository Institutions Deregulation and Monetary Control Act of 1980 are contained in nine descriptive titles. Some parts of the law were effective immediately while others involving interest rate ceiling and reserve requirements will be implemented in stages during the next six to eight years. By October 1, 1988, all sections of the law will be in force. A summary of each title follows.

Title I — Monetary Control Act of 1980

Reserve requirements are imposed on all depository institutions including commercial banks, mutual savings banks, savings banks, credit unions, and savings and loan associations. Reserve requirements are applied to all transaction accounts in the depository institutions. Included are all accounts on which the account holder is permitted to make withdrawals, specifically demand deposits, negotiable order of withdrawal accounts, savings deposits subject to automatic transfers, and share draft accounts.

Reserve requirements are placed on 3 percent of the first $25 million in transaction accounts, 12 percent of the amount above $25 million with discretion to vary from 8 percent to 14 percent the requirement for accounts above $25 million. Further, 3 percent of all nonpersonal time deposits are subject to the reserve requirement with authority to vary this requirement from zero to 9 percent for the purpose of implementing monetary policy. All reserve requirements shall be applied uniformly to all transaction accounts at all depository institutions. All depository institutions in which transaction accounts or nonpersonal time deposits are held are entitled to the same discounts and borrowing privileges from the Fed as member banks.

Supplemental reserves also may be imposed for up to 180 days on up to 4 percent of transaction accounts. The supplemental reserve could be extended for further periods not exceeding 180 days and would bear interest at the earning rate of the Fed portfolio during the previous calendar quarter.

The reserve requirements allow for a four-year period for member banks of the Federal Reserve System to phase into the new reserve requirement structure. Nonmember institutions will be given eight years to adjust fully to the reserve requirements. Any bank that was a member of the Federal Reserve System as of July 1, 1979, and later left the system will be subject to the reserve requirements as if it were a member bank.

Title II — Depository Institutions Deregulation

The purpose of this title of the act is to provide for the orderly phase-out and ultimate elimination of the limitations on the maximum rates of interest and dividends that may be paid on deposits and accounts by financial institutions. The period of time during which the phase-out will be completed is six years.

Authority to carry out this policy is vested in a Depository Institutions Deregulation Committee that consists of the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal Reserve System, the Chairman of the Board of Directors of the Federal Deposit Insurance Corporation, the Chairman of the Home Loan Bank Board, and the Chairman of the National Credit Union Administration Board as voting members; and the Comptroller of the Currency as a nonvoting member. The Deregulation Committee is expected to decrease gradually the limitations on payment of interest on all transaction accounts and to provide depositors with a market rate of return on their savings while showing due regard for the safety and soundness of depository institutions.

Title III — Consumer Checking Account Equity Act of 1980

This title provides for the automatic transfer of funds and the withdrawal of funds from accounts on which interest or dividends are paid (negotiated orders of withdrawals), and authorizes establishment of remote service units by Savings and Loan Associations. Insurance of Deposits in all depository institutions is increased to $100,000 from the $40,000 limit that previously existed. The ceiling on loans made by credit unions is increased to 15 percent inclusive of all finance charges. Provision is also made for increasing the ceiling, as money market conditions dictate, for periods up to 18 months.

Title IV — Powers of Thrift Institutions and Miscellaneous Provisions

Thrift institutions are authorized to invest in a variety of investment instruments that heretofore have not been available to them. Included in the list are secured and unsecured consumer loans, commercial paper, corporate debt securities, education loans, mutual capital certificates, community development investments, unsecured construction loans, and certain nonconforming loans (second mortgages) on real property used for residential or farm purposes. Federally chartered savings and loan associations can provide mortgage loans of unlimited amounts, make loans to borrowers without geographic restriction, issue credit cards, and offer trust services comparable to those currently provided by commercial banks.

State chartered savings and loan associations are authorized to convert their charters to Federal stock charters. Mutual savings banks that are Federally chartered are authorized to make commercial, corporate, and business loans not to exceed 5 percent of their assets.

Title V — State Usury Laws

State interest rate ceilings on rates of interest permitted on mortgage loans (usury ceilings) are overridden permanently unless the state bylaws or constitutional amendments take action to limit interest rates before April 1, 1983. Further, state usury ceilings on agriculture and business loans larger than $25,000 are preempted for three years.

Title VI — Truth in Lending Simplification

A list of 100 changes in the existing Truth in Lending Law are included in the act. They are designed to make compliance less complicated, less costly, and more understandable for lenders and consumers. The Fed is required to issue a revised Regulation Z to carry out the purposes of this title.

Title VII — Amendments to the National Banking Laws

National banks are authorized to hold real estate for an additional five years (beyond the present five-year holding period) after obtaining approval of the Comptroller of the Currency; bank holding companies are given two more years to divest themselves of real estate that previously was to be divested by December 31, 1980; and the 6 percent limit on dividends on national bank stock is removed. The Comptroller of the Currency also is granted additional authority to revoke trust powers of national banks.

Title VIII — Regulatory Simplification

Under this title the Federal financial regulatory agencies are ordered to review all regulations for the purpose of eliminating costly, duplicative, and unnecessary burdens on financial institutions and consumers. All regulations shall insure that a need exists, that meaningful alternatives to the regulation are considered, and that compliance costs, paperwork, and other burdens on financial institutions, consumers, and the public are held to a minimum. Furthermore, the regulatory agencies are required to establish a program that assures periodic review of existing regulations to determine whether they are achieving stated objectives.

Title IX — Foreign Control of United States Financial Institutions

Foreign banks will not be permitted to buy or take over any United States Depository Institution until July 1, 1980, except where bankruptcy or insolvency of the domestic institution is involved and its assets total no more than $100 million.

IMPLICATIONS OF THE LAW

The new law contains provisions that have significant implications for all regulated financial institutions and the customers they serve. Review of, and reflection on, the provisions included in the nine separate but related titles of the act clearly suggest that during the 1980's several changes in the ways financial institutions function in obtaining funds, making loans and investments, and, hopefully, earning reasonable profits can be expected. Among the more important changes that will occur during the decade are a sharp reduction in the scope and number of regulations on financial institutions' activities, an accompanying increased reliance on competitive free market forces, an increase in competition among all types of financial institutions, an increase in use of innovative techniques and technological changes, and more affirmative control over the major components of the money supply by the Board of Governors of the Fed.

Less Regulation — More Reliance on Free Markets

Probably the most significant implication embodied in the new law is the sharp change in the philosophy underlying the action taken by Congress. Whereas the financial institutions in this country have operated for nearly half a century in a regulatory environment that has been protective, prohibitive, and highly restrictive, the new name of

the game is freedom of initiative and choice based on free market forces and profit making incentives. It appears to be abundantly clear that this change in attitude is one of the strongest intents of the Congress.

Such a drastic change in direction of national policy will require much patience, understanding, and fortitude on the part of all the agencies and institutions involved. On one hand the regulatory agencies will need to adjust their attitudes and policy directives to conform to the spirit as well as the substance of the law. For some, this adjustment undoubtedly will be difficult. At the same time, a number of the regulated institutions will find the adjustment to more openness and competitive forces painful if not traumatic. For some of the institutions regulation has included special treatment of perceived special needs and a substantial amount of protection from competition.

The impact on the general public, especially depositors and borrowers, will be somewhat mixed. Depositors will be pleased with the increased interest income they can earn on their investments in the regulated institutions and with the new services available to them. Borrowers, however, can expect to see more volatility in the price of the financial services they need as interest rates, fees, and other credit service charges are adjusted to anticipated changes in the cost of funds to lenders.

Increasing reliance on free market forces will encourage institutions to develop innovative techniques and services which in the past have been restricted by regulation. Since regulation is in essence a tax,[1] the removal of regulations eliminates one hidden cost of doing business for the depository institutions. At the same time the institutions are now free to allocate their energies and creative talents to developing new services of all types for their customers. In the past innovation has been limited mostly to finding ways of circumventing or avoiding regulatory restraints legally. The result should be to see in the future a wide variety of new and improved services to the public that have not been available before.

Increase in Competition

One of the primary purposes of the Hunt Commission Study was to explore ways to open financial markets to more competition than existed after passage of the reform legislation of the 1930's. Among the barriers to competition the earlier law had erected were impediments to entry that have limited the number of competitors; rigid segmentation of the depository institutions industry, with many institutions restricted to a narrow range of activity; prohibition of interest on demand deposits; interest rate ceilings on time and savings deposits; and limitations on branching.

All of these competitive barriers are removed or sharply curtailed by the Depository Institutions Deregulation and Monetary Control Act. All institutions, for example, will be permitted to pay interest on demand and other check writing type deposits in January 1981, and by March 31, 1986, rate limitations on these accounts will be removed entirely.

Removal of segmentation restrictions will open doors to a wider array of financial services by most institutions. Prospective borrowers will be able to seek funds from more than one type of lender; hence, the pool of funds for investment in consumer loans, mortgage loans, and commercial loans should increase. Loan terms and other contract provisions likewise should be more widely available under more satisfactory conditions.

On balance, as the law becomes fully effective, borrowers should expect to see fewer restrictions in loan terms, a wider variety of financial contracts to choose from, new and expanded financial services, and special services for market segments that do not exist today. Although not specifically provided for in this act, eventually barriers to branching across state lines also will be removed, permitting multistate offering of financial services.

Increase in Use of Innovative Techniques

Changes brought about by the removal of regulatory restrictions and a rise in competitive pressures will increase the adoption of technological innovations that have been occurring at a rapid pace during the past few years. Recent developments in electronic banking involving the use of computers and advanced communications systems for transferring information will be expanded. Existing electronic funds transfer systems will become more sophisticated as improvements are made in performing traditional services. Expanded uses of existing technology will be developed including more widespread installation of automated teller machines and point of sale terminals in off-the-premises locations. Further developments in automated clearing houses in regional financial markets will enhance the capacity of EFT systems as well as produce an increase in the functions

[1] See Richard A. Posner, "Taxation by Regulation," **The Bell Journal of Economics and Management Science** 2 (Spring 1971) for an expansion of this view

performed by the clearing houses. The list of possible innovative developments is almost endless but it is reasonable to assume that services acceptable to the consumer will be forthcoming. For example, it is now possible to dial bill paying instructions by telephone to a financial institution, and to receive information on one's account through the television set in the family living room.

It will be possible also to move more rapidly toward a "checkless society." As EFT systems become fully functional, it will be feasible to use computer-based systems to eliminate the need for pieces of paper (checks) to transfer funds, to make deposits, to pay bills, and to maintain an accurate statement of the status of accounts for individuals and business firms. An important obstacle to such development has been public reluctance to accept new services of this type because of a lack of economic incentive to do so. In part this reluctance has been due to the fact that users have not had to pay the full price for using the present system. The Federal Reserve System and commercial banks subsidize the check processing procedure to a considerable extent. As the law becomes operational, however, and customers are faced with paying the full cost of services, they undoubtedly will be more receptive to a "checkless" system that is both more efficient and less costly.

Fed Control over the Money Supply

One section of the Deregulation and Monetary Control Act that has received relatively little attention from the press and the public is Title I (which requires all depository institutions to maintain reserves with the Fed on all transaction accounts). This action, when fully implemented in 1988, will give the Fed full control over all deposits that make up the money base, currency, and bank reserves, the "raw material from which the money supply is made." In the past, Fed control over the money supply has been limited to banks that are members of the Federal Reserve System. As noted above, during recent years member banks have been withdrawing from the system in increasing numbers to avoid the costs associated with Fed membership. With passage of this legislation, however, such an incentive no longer exists since now all depository institutions are required to maintain reserves with the Fed.

This law also provides Fed control over the deposits of all commercial banks, and the transaction accounts of all savings banks, savings and loan associations, and credit unions. Transaction accounts include all types of deposit accounts from which the depositor is permitted to make withdrawals by negotiable or transferable instrument, payment orders, or telephone transfers to third persons or others. As a result, the Fed is now in a much stronger position to control the money supply for the purpose of implementing monetary policy designed to control inflation, support production of goods and services, and maintain employment of the labor force.

While it is too early to predict the impact of this increased power of the Fed, it is clear that this monetary authority is in a much stronger position than ever before to enforce whatever monetary policy it establishes. Less attention undoubtedly will be given to interest rates, especially short-term rates, and more attention will be focused on monetary aggregates, reserve requirements, and discount rates.

PROJECTIONS FOR THE FUTURE

This review, interpretation, and analysis suggest a number of developments that can be anticipated during the years immediately ahead, as all features of the act become fully operational. The most obvious of these events are discussed briefly below.

1. There will be a significant increase in competition among the regulated depository financial institutions. In the new unregulated environment institutions will compete vigorously for deposits. This competition will force upward the rates savers can expect to receive on their funds which in turn will encourage savings and increase the pool of funds available for investment by the regulated institutions. At the same time, the higher rates paid for savings will be reflected in higher rates for all types of borrowing including consumer loans, mortgages, and business and commercial loans.
2. Profits earned by financial institutions will undergo a transformation and, perhaps, a squeeze. Profits earned by these institutions traditionally have been made by pooling risks and taking advantage of interest rate movements. In the future risk pooling will continue but interest rate profits will narrow and probably disappear. This source of income will have to be replaced by others. Floating rate loans will become far more commonplace and will be used in an increasing number of lending situations as managers strive to balance rate-sensitive assets to rate-sensitive liabilities. Other

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Employee Benefits Forum ..... May 14

Seminar for Secretaries ..... May 19 and 20

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Assertiveness Training: A Workshop for Leaders ..... June 2-4

Additional information on any or all of these programs may be obtained by calling 1-803-777-2231, or writing:

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sources of income probably will include new types of financial and nonfinancial services and the development of new markets.

3. The costs of running banks or thrift institutions can be expected to increase further as the institutions and their customers are required to pay the full cost for check clearing and other services that have been provided by the Fed and other regulatory agencies at subsidized rates in the past.

4. Financial institutions will become more homogeneous as the services and types of loans and investments available to all become more uniform. This is not to imply that all institutions will look alike. Specialization will continue, with commercial banks emphasizing business lending, thrift institutions providing a large share of the funds channeled into housing and other mortgages, and credit unions continuing to serve the needs of their consumer members. As yields on different types of loans fluctuate, however, funds will move more readily across institutional lines into those commanding higher yields. Swings in rates will thereby be moderated.

5. There will be an increase in mergers of existing institutions as smaller organizations find it desirable to join larger ones to take advantage of the latter's superior resources including broad management knowledge and skills, computer and other technical facilities, and more substantial financial reserves.

6. Perhaps the most significant observation to be made is that it will not be "business as usual" for regulated institutions. No longer will it be sufficient for upper-level managers to be trained in only one area of finance. Rather, they will need to become generalists in finance and probably economics. They will have to develop an understanding of just about all financial instruments, the determinants of interest rate movements, the mathematics of bond pricing, and the intricacies of portfolio management; and keep abreast of innovations in instruments, techniques of intermediation, and international flows of funds. Managers will need to reassess strategies and financial policies and give more time and attention to long-range strategic planning than ever before.

Home-Grown OSHA: How It Started, How It Grows, and What It Does

By Edgar L. McGowan and James E. Knight

INTRODUCTION

The Occupational Safety and Health Act of 1970 requires that employers provide a safe and healthy worksite for all employees. Responsibility for enforcement of the act was placed with the U.S. Department of Labor, with the provision that the Secretary of Labor can allow a state to preempt his authority if that state can develop an equally effective program.

In 1972, South Carolina Commissioner of Labor Edgar L. McGowan was given approval to develop such a program. He did so and on January 1, 1973, South Carolina became the first state to begin enforcing its own Occupational Safety and Health program. Recently, Commissioner McGowan reflected on the first 10 years of the act's enforcement in South Carolina and the future of the state program in an interview with the South Carolina Department of Labor's Director of Public Information James E. Knight.

INTERVIEW

KNIGHT: Commissioner, the Occupational Safety and Health Act has been in effect since 1970, and yet there are still some in industry who argue that OSHA is antibusiness, is sinfully wasteful, and hasn't made the work place safer. Are these charges justified?

McGOWAN: No, I really do not believe that these allegations are justified. We have been in the program since January 1, 1973, and during that period of time, through June 30, 1980, we inspected 21,800 different places of business. As a result of those inspections, we found 2,756 serious violations and 73,000 other than serious violations. The act itself and our educational and inspection programs

have made employees much more aware of the unsafe or unhealthy conditions in which they may be working. They have made the businessman much more aware of the fact that he may be operating an unsafe or unhealthy worksite. The two working together have resulted in great improvements in many worksites in both the safety and health areas.

It is true that the expense of the program to the businessman initially has been very expensive, especially in the health area. However, over the long run, I feel that his workmen's compensation cost will be reduced. Further, lost time injuries by his employees, which require the training of new employees and the expense of hiring new employees, will, in the long run, result in an economic benefit to the employer and, of course, a safer and healthier worksite for the employee.

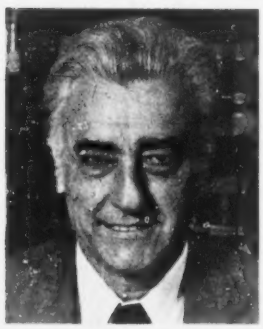
In addition to the economic benefits over the long run and the safer and healthier worksites, other benefits have also derived from this. A major one is better personnel policies. For example, when OSHA was originally passed it required rest areas for employees. I know of one employer in South Carolina who spent in the vicinity of $50,000 building such a rest area. This employer hit the ceiling when that particular standard was rescinded, but, a year later when his employees showed so much better attitudes toward their work, he said that it was the best $50,000 he had ever spent. This particular standard is one of the many so-called nit-picking standards that have been rescinded. We no longer require the employer to do anything that is not actually beneficial to the employee. We do require him to notify the employee of his rights.

KNIGHT: Has South Carolina's job safety record shown improvement since the act was signed into law?

McGOWAN: It is rather difficult to say whether the job safety record shows improvement since the passage of the act. I will say that we do have the statistics on the 1978 calendar year and these figures do show that over that year South Carolina had an incidence rate of 7.5 injuries and illnesses per 100 full-time workers, the third lowest incidence rate in the nation (those for Delaware and Guam were lower). The data for 1979 show that South Carolina's figure went down to 7.2. I don't know where that will stand in the national rating, but it does show that we have dropped .3 in our own incidence rate over a 1-year period of time. I do not believe this is attributable to South Carolina's enforcement effort, but I do believe it is directly attributable to the combination of our education of employers, our education of employees, and our enforcement record. The three forces working together have brought about this reduction.

KNIGHT: South Carolina is one of 24 states that administers its own OSHA program. The others are administered directly by the U.S. Department of Labor. Why did you decide in 1971 to seek a state-run program for South Carolina?

McGOWAN: I made this decision basically because of the desire of the business community and the working people of South Carolina to have their program administered by a state plan. I met with the Chamber of Commerce, the Textile Manufacturers Association, and various employee groups, and all of them were supportive of the program and felt that South Carolina could do a



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James E. Knight is Director of Public Information for the South Carolina Department of Labor. He earned his B.A. Degree in Journalism from The University of South Carolina where he is currently a candidate for the M.M.C. Degree. Prior to joining the Department of Labor, Knight was Station Manager of WLCM-WPAJ in Lancaster, a broadcast journalist at radio stations in South Carolina, a news reporter for both **The State** newspaper in Columbia, South Carolina, and **The Charlotte Observer** newspaper in Charlotte, North Carolina, and a member of the faculty at USC Lancaster.

State Labor Commissioner Edgar L. McGowan at work in his law library at the Department of Labor

better job of protecting its own people and working with its businessmen than the Federal bureaucracy could. Given these feelings, Governor West decided that we would go into the program at the state level.

KNIGHT: Has the business community in South Carolina been supportive of the state program?

McGOWAN: Yes, the business community has been most supportive of the state program, even though we are harder on them than the Federal Government would be in their program. We make more inspections, we have more inspectors on the road, and we are requiring compliance in a more effective manner, but the businessman can deal with me, whereas he cannot deal with the bureaucracy in Washington. This is a state with very little organized labor in it, so for any program to be successful, it must have the support of the business community.

KNIGHT: Is South Carolina's OSHA program as effective as Federally run programs in reducing injuries on the job?

McGOWAN: I think South Carolina's program is much more effective than the Federal program in reducing injuries, and I think the statistics bear this out.

KNIGHT: Despite the evidence that state programs are better staffed, more efficiently managed, and more effective in reducing job injuries than Federally run programs, the future of state programs has been placed in jeopardy by the District of Columbia court's decision in **AFL-CIO v. Marshall.** Why?

McGOWAN: The AFL-CIO brought suit in 1974 in U.S. District Court challenging the Secretary of Labor's criteria for approval of state plans for administering safety and health programs. At issue was whether the Secretary's requirement that states provide personnel and funding that would be "at least as effective" as that provided in states with Federal enforcement was, in fact, an appropriate requirement. Criteria for approval of state plans included an "at least as effective" test that had the effect of granting approval of state personnel levels that equaled or marginally exceeded admittedly low Federal staffing levels.

The District Court upheld the Secretary's criteria, but the AFL-CIO appealed that judgment, and the Court of Appeals, on January 21, 1978, overturned the District Court decision. The Court of Appeals, relying on the language and history of the statute itself, held that Congress intended that states must provide enforcement personnel and funding that assure "fully effective" worker protection. It directed the Secretary to establish "criteria that are part of an articulated plan to achieve a fully effective enforcement effort at some point in the foreseeable future."

In rendering its decision, the Court of Appeals remanded the case to the District Court for the issuance of an order directing the Secretary to define the staffing levels and funding criteria necessary for a "fully effective" program. Pursuant to this decision, the District Court issued its order on December 5, 1978. On April 25 this year, OSHA submitted to the District Court benchmark staffing levels for the states to meet.

By the way, Federal OSHA does not have to comply with the benchmark program. The benchmarks in the industrial hygienist area as proposed by the U.S. Department of Labor and the AFL-CIO are very high compared with our present staffing.

Robert Lyndler of Congaree Construction Company, Columbia, and Commissioner McGowan discuss the construction of a new building at Providence Hospital

The benchmarks as proposed in the safety area are fairly realistic. To impose upon a state the requirement to have a fairly effective program within a certain period of time and not impose the same requirement on the Federal Government in its jurisdiction clearly denotes that the entire purpose of the suit of **AFL-CIO v. Marshall** was to destroy state plans, including South Carolina's.

The decision further implied that until a state reaches these benchmark goals, there will be no final approval. We have been operating the program nearly 8 years now and are looking to potentially 10 years before we will receive final approval. Unless Congress appropriates sufficient money to pay 40 percent of the costs to reach these benchmarks, I can envision 30 years of operating the program without final approval.

The intent of Congress in the enactment of the legislation was that some states would take over the operation of the program from the Federal Government with a minimum number of strings attached after a reasonable length of time. This intent has been utterly disregarded by the court in its decision. However, one must remember that this was never an adversary proceeding because the U.S. Department of Labor in defending the case failed to appeal to the U.S. Supreme Court from the decision of the Court of Appeals, and put up a very weak defense in the District Court case and later on appeal.

KNIGHT: According to the benchmarks, how many additional safety inspectors and industrial hygienists would South Carolina have to add?

McGOWAN: The proposed benchmarks require an increase in state safety staffing levels of 26 percent and in state industrial hygiene and health levels of 80 percent. In South Carolina, the figures require an increase in safety staffing from 20 to 39 and in health staffing from 7 to 60. The proposal allows states a period of 5 years to meet the safety benchmark and 10 years to meet the health benchmark.

KNIGHT: What would be the economic impact of the benchmarks on South Carolina?

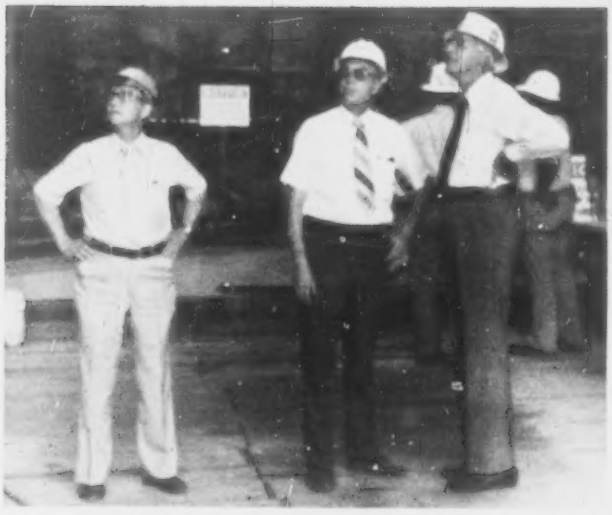
McGOWAN: We have not computed exactly what this would be because, of course, we are fighting the benchmark case in Washington, but we estimate that it will cost somewhere between $2 and 3 million to bring our staff up to that point.

KNIGHT: If funds were available, would there be enough trained industrial hygienists around to fill the positions?

McGOWAN: No, there are not enough in the country to fill the benchmark requirements. There are, however, industrial hygienists being educated every day. Now we're using biologists, we're using chemists, we're using any type of science degree holder to convert to an industrial hygienist, and through that method, I think the positions possibly could be filled. We have 10 years in which to fill them, and I think we can. Now, as far as the safety positions are concerned, there certainly are enough safety people to fill them.

KNIGHT: What are the states that operate their own programs doing to delay implementation of the Federal standards?

McGOWAN: South Carolina was not a party to the suit. The only state that was a party originally



Commissioner McGowan views construction progress at Duke Power Company's Catawba Nuclear Station

to the suit was California, and it failed to perfect its party status. When the decision came down, and we were advised of the benchmark figures, South Carolina, along with 13 other states, moved the court for the right to file an amicus brief. This was granted, and we did file the brief June 24 this year with the U.S. District Court for the District of Columbia. We asked the court to reject the proposed benchmarks. Our Brief of State Amici Curiae contends that implementation of the staffing benchmarks will require the states to employ additional safety inspectors and industrial hygienists at substantial cost to the states and that they will be substantially delayed in receiving final approval of their state OSHA plans. It charges that the U.S. Department of Labor ignored key factors when developing the state staffing requirements and violated Federal guidelines by not consulting the affected states during the drafting of the standards. Under the Administrative Procedures Act, the Secretary is required to publish the benchmarks, hold hearings, and give any interested party an opportunity to submit evidence regarding the benchmarks. The Secretary failed to do this and worked out with the AFL-CIO a proposed order without the opportunity for anyone to put into the record any opposition. South Carolina has filed a petition for a Writ of Mandamus with the court to require the Secretary of Labor to follow the Administrative Procedures Act. If the court grants this, the Secretary will have to hold public hearings and publish proposed benchmarks, and there will be created a record from which we can appeal to the courts. In addition to this, I have testified before two Congressional panels regarding the benchmarks and have asked them for their assistance in requiring the Secretary to carry out the original intent of Congress when the act was passed. I am very encouraged with the responses of these committees.

Commissioner McGowan presents a special certificate of safety achievement to Duke Power Company, Construction Division, Catawba Nuclear No. 1 and 2, for 1,500,000 hours without a lost time injury.

KNIGHT: If you are unsuccessful in the courts, would it be reasonable to say that in the not so distant future, the business community of this state may find the OSHA program taken over by the U.S. Department of Labor?

McGOWAN: No, if we are unsuccessful and wind up with a total requirement of 60 industrial hygienists, I believe the business community of South Carolina and its dedicated support of this program would see that we got the necessary funds to carry out the program.

The Employer and Employment Laws

By James J. Baldwin, LL.D.

The Employer and Employment Laws is a regular feature. Suggestions and inquiries by readers are invited.

EEOC'S NEW GUIDELINES ON SEXUAL HARASSMENT: A FURTHER EXPANSION OF EMPLOYER LIABILITY

In a recent Federal court case, **Vinson v. Taylor**,[1] a female employee claimed that she had been discharged in violation of Title VII of the Civil Rights Act of 1964[2] after she refused the sexual advances of her immediate supervisor. The court ruled in favor of the employer, partly because the female employee had not complained to any of the employer's supervisors and the employer had no knowledge of the alleged sexual harassment. The court rejected the female employee's argument

[1] 23 FEP Cases 37 (D.C.D.C. 1980).

[2] 42 U.S.C. 2000e **et seq.**

that her employer had been put on notice of the conduct in that her immediate supervisor, who was also the person accused of the sexual advances, knew about those advances. On September 23, 1980, the Equal Employment Opportunity Commission (EEOC) adopted guidelines covering sexual harassment in the workplace that are contrary to the Federal district court's opinion in the **Vinson** case.[1]

The EEOC's new guidelines greatly expand the prior court interpretations of what constitutes illegal sexual harassment under Title VII. In addition, these guidelines place a heavy burden on the employer to take certain action to prevent such sexual harassment from occurring. The EEOC now broadly defines illegal sexual harassment as unwelcome advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature. The EEOC guidelines have deemed as illegal sexual conduct in the workplace that falls into any one of the following three categories:

1. when submission to the conduct is explicitly or implicitly a term or condition of an individual's employment;
2. when submission to, or rejection of, the conduct is a basis for employment decisions; or
3. when the conduct has the purpose or effect of substantially interfering with an individual's work performance or creates an intimidating, hostile, or offensive working environment.

These guidelines create an absolute liability for the employer concerning sexual harassment by a supervisory employee, even though the employer has forbidden this conduct and/or has no knowledge that sexual harassment has occurred. The guidelines also indicate that there may be a Title VII violation when an employee receives favorable employment treatment for submission to a supervisor's sexual advances while other qualified employees do not receive similar treatment. Furthermore, an employer can be held liable for sexual harassment by nonsupervisory employees when the employer knew, or should have known, that such conduct was occurring and the employer did not take immediate action. Finally, an employer can be held liable for job-related acts constituting sexual harassment committed by nonemployees when the employer knew, or should have known, of the conduct and failed to take immediate action.

As shown by the **Vinson** case discussed above, the courts generally have been more restrictive than the EEOC guidelines in interpreting what actions amount to illegal sexual harassment under Title VII. Only in a few instances have employees been successful in winning a Title VII sexual harassment claim in court. These cases generally have been limited to situations in which the employee's submission to sexual advances was a term or condition of her employment, and her rejection of the advances resulted in an adverse employment decision. Courts, recognizing the natural attraction between the opposite sexes, have been understandably wary of allowing all forms of sexual advances in the workplace to be interpreted as violating Title VII, since to do so would invite a flood of lawsuits.[2] However, the EEOC's new guidelines may provide a basis for an expansion by the courts of what constitutes **illegal** sexual harassment. Some courts may find that the EEOC's guidelines are entitled deference in sexual harassment cases brought under Title VII.

The EEOC's guidelines, if accepted by the courts, will create serious problems for employers for several reasons. First, the guidelines require an employer to police his work force for illegal sexual harassment and to prevent any activity on the part of an employee that could be interpreted as a sexual advance. The range of activities that fall into this category under the guidelines are so broad that the employer is faced with what appears to be an impossible task. For that example, an employer is responsible, under the third category of conduct set forth by the guidelines, for preventing illegal sexual harassment that has the **effect** of creating "an intimidating, hostile, or offensive working environment." The employer, however, is given no standard by which to determine when the working environment becomes offensive. For instance,

[1] 29 C.F.R. § 1604.11.

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[2] See **Corne v. Bausch & Lomb, Inc.**, 390 F. Supp. 161 (D. Ariz. 1975), **vac. without published opinion**, 562 F.2d 55 (9th Cir. 1977).

See **Griggs v. Duke Power Co.**, 401 U.S. 424 (1971).

under this vague EEOC language, would it be a violation for a male supervisor to repeat an off-color joke to a female employee?

Second, since sexual harassment is rarely witnessed by other employees, the employer may be faced with complaints that cannot be corroborated. Thus, the employer is confronted with an extremely difficult decision of what appropriate, immediate action is required by the guidelines. In some cases, dismissal of a supervisor could even lead to a lawsuit against the employer for defamation of character.

Third, an employer is absolutely liable for any harm caused by the sexual advances of his supervisory employees, no matter what preventive actions he takes. Fourth, an employer is required to prevent, if possible, any job-related sexual advances by nonemployees upon his employees, and to take appropriate action if such acts do occur. Thus, an employer is faced with the immediate question of how to police or restrict the actions of a nonemployee over whom he has little or no control.

Finally, an employer is apparently burdened with the requirement of monitoring the private relationships among his employees to ensure that voluntary submission by an employee to sexual advances of a supervisor does not become a basis for granting employment opportunities or benefits over other qualified individuals. The guidelines are so broadly worded that otherwise acceptable conduct among supervisors and employees, such as dating and marriage, could be interpreted by the EEOC as sexual harassment.

There are as yet no court decisions that interpret the EEOC's new guidelines. There are, however, several measures an employer can take to avoid violations.

An employer should notify all appropriate supervisory personnel in writing that sexual harassment, whether physical or verbal, will not be tolerated. In addition, supervisory employees should be informed that when they become aware of any such activity among employees under their supervision or nonemployees present in their work area, they should immediately report such to the appropriate management officials.

Many sexual harassment problems will involve an employee's immediate supervisor. Often, however, the proper procedure for an employee to express a job-related complaint is to discuss it first with her immediate supervisor. Therefore, an employee could feel unable to complain about sexual harassment and, as a result, a possible violation would go unreported and undetected. This problem can be solved by giving the employee an alternative channel, or the opportunity to express a complaint to a management official other than her supervisor. For example, an "open door" provision may be included in an employee complaint procedure whereby an employee can confidentially express a complaint to a higher management official, such as a plant personnel director, when necessary.

Under the EEOC's new guidelines, the definition of sexual harassment as a violation of Title VII has become greatly expanded. In addition, a heavy burden is placed upon the employer by these guidelines to prevent sexual harassment while little or no guidance is provided as to what specific conduct is illegal. Until the courts have an opportunity to deal with the legal issues raised by the guidelines, an employer will undoubtedly feel as if he is proceeding in the dark. In the interim period, however, an employer may be able to avoid many of the potential problems by taking various actions similar to those briefly discussed above.

Bottom Lines

By James B. Edwards, Ph.D., C.P.A., C.M.A., C.I.A., C.D.P.

Bottom Lines is a regular feature that brings attention to practical business taxes and accounting. Suggestions and inquiries by readers are invited.

FEDERAL TAX LINES

The Internal Revenue Service (IRS) always scrutinizes deductions for travel, entertainment, and related business expenses. The basic rules for this area are complex — providing both tax-saving opportunities and tax pitfalls.

LINE ONE

As a rule, you don't have to report on your individual tax returns the expenses incurred in your job and paid for by your employer. In most cases, you simply state on your return that "the total you received as an advance or reimbursement

was not more than what you spent or incurred." Of course, if advances or reimbursements exceed your expenses, the excess is income to you. In this case, even though you need not report the reimbursements and expenses in detail on your tax return, you must state on your return that "such excess was included in your income."

LINE TWO

Actually, you are accounting to your employer for reimbursed expenses instead of directly to the IRS. However, the IRS requires that you keep a detailed diary, and you must obtain receipts for lodging and every expenditure of $25 or over. In order for your employer to deduct all the reimbursed expenses, adequate proof of the expense items must be established. This means a written report by you to your employer, showing all the elements required by the strict "proof" rules (including what you charged via credit cards). Strict "proof" requires that you maintain records of who, when, where, what, why, and how much, backed up by receipts for all travel, lodging, and $25-or-over expenditures.

RECOMMENDATION: All employers should

1. require all employees incurring travel and entertainment expenses to maintain diaries detailing the who, when, where, what, why, and actual expenses, to be made available to the employer when needed;
2. require all employees to retain receipts for transportation (where possible), lodging, and any $25-or-over items, to be submitted with their claims for reimbursement;
3. require all employees to prepare a detailed expense account sheet from information contained in their diaries, to be submitted as a claim for reimbursement; and
4. have an unrelated, responsible person verify and audit all claims for reimbursement.

Even when one drives one's own vehicle, a record of the actual mileage-driven-for-business purposes should be maintained. An employer should establish a clear-cut policy that defines precisely which expenses will be reimbursed and the detailed requirements for obtaining reimbursement. This is just plain good business practice, anyway.

LINE THREE

Even though you do account to your employer, there are three situations in which you may still have to prove all your expenses to the IRS.

1. Your expenses exceeded the total amount you received by way of advance or reimbursement from your employer, and you deduct the excess on your individual return.
2. You're "related" to your employer, such as parent, husband, wife, child, brother, sister, grandparent, grandchild, more-than-10 percent owner of corporation, fiduciary and beneficiary of certain trusts, or a controlled charitable organization.
3. The accounting procedure used by your employer for reporting and auditing your expenses are inadequate.

LINE FOUR

If you do not account to your employer, you have to attach a statement to your individual tax return showing

1. the total charges paid by your employer;
2. any amount received by you from your employer for expenses;
3. your occupation;
4. the number of days away from home on business; and
5. the amount of business expenses under headings such as transportation, meals, and lodging away from home overnight; entertainment; gifts; and other business expenses.

IRS form 2106 is designed for this type of reporting.

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LINE FIVE

The tax law applies two tests to your entertainment expenses: are they (1) directly related to, or (2) associated with, the active conduct of your trade or business? Simply stated, the IRS requires a "direct relationship" between your business and the entertainment. A few cases follow.

1. If a theater party, night club treat, ball game, golf game, hunting trip, home entertainment, or what have you directly precedes or follows a substantial and bona fide business discussion, and if the expense is associated with the active conduct of business, the cost is deductible. The entertainment will normally have to take place on the day of the business discussion, unless the customer comes from out of town, or other unusual circumstances exist. You must be able to show that you conducted business discussions on these occasions.
2. Not only must the entertainment directly precede or follow substantial business discussions, but you must attend the function or send a representative.
3. You don't have to close the business deal at the time of the entertainment, but you have to show more than a general expectation of realizing income or other business benefit at some indefinite future date.
4. Even though the law doesn't spell it out, the "extravagant" or "lavish" portion of entertainment expenses is not deductible even if it's otherwise qualified. The IRS handles these on a case by case basis.
5. Strictly goodwill entertainment is forbidden under the "directly related" test. You must actually discuss business in an atmosphere that is conducive to a business discussion. For example, a distracting influence such as a floor show would cause the deduction to be disallowed.
6. If you buy season tickets to athletic events for the purpose of entertaining customers, you must keep records of the use of each ticket. Treat each game as a separate item and allocate the cost of season tickets accordingly.
7. There are two points in considering club dues deductions:
   a. More than 50 percent of the use must be business related, and
   b. even if you pass the 50 percent test, you can deduct only the percentage of use "directly related" to your business. Be sure to keep good records for this case. The substantiation regulations specifically say that when the records aren't "adequate," it shall be presumed that the use was primarily personal — the deduction is lost. Even if you lose out on the dues deduction under the 50 percent rule, the actual cost of business meals at the club is still deductible. **SUGGESTION**: If you belong to more than one club, use one club strictly for business entertaining, the other for personal use.

BEYOND LINE FIVE

In a future issue, attention will be given to business gifts, auto deductions, conventions, spouses, and other related matters. The presentation in this issue must be considered a very limited treatment of the topics. You should consult your tax adviser about your specific considerations.

The Regional Effects of Market Erosion and Tariff Reductions: A Study of the Textile Industry

By Randolph C. Martin and Joseph Pelzman

INTRODUCTION

It is fair to say that a majority of economists embrace the arguments given for a free and unhindered flow of trade between the various nations of the world. These arguments have a long history, and as early as 1776 Adam Smith went to the heart of the matter by proclaiming that

> it is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy. The

> taylor does not attempt to make his own shoes but buys them of the shoemaker. The shoemaker does not attempt to make his own clothes but employs a taylor. The farmer attempts to make neither the one nor the other, but employs those different artificers. All of them find it for their interest to employ their whole industry in a way in which they have some advantage over their neighbors, and to purchase with a part of its produce, or what is the same thing, with the price of a part of it, whatever else they have occasion for.[1]

At the national level, the free trade argument recognizes that resource mixes and technical knowledge levels differ between countries. Thus, each nation can produce particular goods at different real costs. Countries should then specialize in the production of goods for which its costs are low relative to other nations and exchange these goods for products that are found to have relatively higher costs. In this manner, the world can realize the advantages of geographic specialization within each country, resources can be transferred from inefficient (high-cost) to efficient (low-cost) uses, and higher real incomes can result.

While such an argument has a great deal of intuitive appeal, it often finds little support among certain sectors of the economy and/or regions of the country. Even though nations as a whole benefit from free international trade, particular industries and groups of resource suppliers can be hurt. That is, as consumers begin to switch to lower priced imported items, production and employment may decline in related domestic industries. If these industries are highly concentrated in particular regions of the country, the adverse effects will appear even more pronounced because a high percentage of the areas' labor force will be affected. It is thus easy to see why such industries and regions may seek to preserve their economic position by attempting to persuade the government to maintain (or increase) existing tariffs and/or quotas on the products of concern.[2]

A classic example of the above situation would appear to be the United States textile industry. Because of its importance to the United States economy, the industry has requested and received a great deal of protection.

During the 1950's the revival of the Japanese textile industry and the resulting surge of exports to the United States forced the United States government to negotiate limiting agreements with its less developed country suppliers. The first such agreement, signed in 1956, was a bilateral agreement between the United States and Japan designed to control trade of cotton products. A multilateral solution to the problem came later in 1961 with the signing of the Short-Term Cotton Textile Arrangement (STA). In 1962, a more comprehensive agreement, involving the major importing and exporting countries, was signed. This agreement, known as the Long-Term Arrangement on Cotton Textiles (LTA), was the first attempt ever made to deal with the changes in comparative advantage between the less developed countries and the developed West.

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[1] Adam Smith, **The Wealth of Nations** (New York: Modern Library, Inc., 1937), p. 424.

[2] For an estimation of the distribution of costs and benefits to various states of a tariff cut, see R.C. Martin and J. Pelzman, "The Regional Welfare Effects of Tariff Reductions on Textile Products," Working Paper (Department of Economics, The University of South Carolina, 1980).

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Despite the objectives of the LTA to facilitate a restructuring of trade in textiles, when the LTA expired in 1973, it left the exporting, as well as the importing, countries with a large network of protective measures but with few multilateral solutions. Furthermore, the LTA did not cover wool or man-made fiber products for which imports increased rapidly after 1967.

In order to take into account these other problems, a new multilateral agreement known as the Arrangement Regarding International Trade in Textiles (MFA) was negotiated and became effective on January 1, 1974. This agreement was later extended until December 31, 1981. Unlike the LTA, which applied solely to cotton textiles and apparel, the MFA includes textile and apparel products made of cotton, wool, and man-made fibers.

In the past, textiles have been excluded by this country in trade liberalizing negotiations with other nations. During the recent Geneva discussions, however, United States negotiators did include textiles in their trade liberalization proposals. In spite of past protection, the domestic industry has been experiencing a growing amount of competition from foreign producers resulting from the expansion in imports over the last 15 to 20 years.

In the case of cotton and wool textile products, the degree of market penetration over the 1967-'77 period was enormous. Using either domestic production or the apparent domestic market as a base, the degree of market penetration over the past decade for cotton products has doubled and for wool products has increased by 30 percent. For man-made fiber products the growth in market penetration has not been as sizable. However, even in man-made fibers, where the United States textile industry is assumed to possess some degree of comparative advantage, in 1977 the degree of market penetration by foreign imports equaled 8.9 percent of the apparent domestic market and 7.4 percent of domestic production. Tables 1 and 2 provide an indication of the degree of market penetration or erosion in textiles.

Another characteristic of the textile industry is its regional concentration. In 1972, 61 percent of the value of United States textile output was produced in the South Atlantic states of Virginia, North Carolina, South Carolina, and Georgia.

The purpose of this article is to estimate the impact of a hypothetical tariff reduction and continued market erosion on labor earnings and employment in the textile industry at the regional level. The concern here is with 15 multicounty regions that virtually cover the 3 states of North Carolina, South Carolina, and Georgia. The estimates represent the cumulative effects of a tariff reduction and market erosion over the 11-year period 1980-'90. A 30 percent reduction in the tariff level is employed, and this cut will be spread evenly over the period of concern.[3]

TABLE 1. Imports as a Percentage of the Apparent Domestic Market, 1967-'77[a]

Year	Cotton Textile Products[b]	Wool Textile Products[c]	Man-Made Fiber Textile Products[d]
1967	9.5%	21.6%	7.6%
1968	10.7	25.4	8.8
1969	11.7	25.4	8.2
1970	11.2	24.7	10.7
1971	11.6	25.3	13.1
1972	14.6	22.0	11.5
1973	14.5	22.4	9.3
1974	14.7	22.6	8.0
1975	15.7	19.5	7.8
1976	19.1	23.5	8.7
1977	19.2	30.0	8.9

Source: U.S., Department of Commerce, Industry and Trade Administration, **U.S. Production, Imports and Import/Production Ratios for Cotton, Wool and Man-Made Fiber Textiles and Apparel**, January 1979.

Note: At the time of this writing, the 1980 volume of this report is not available. The 1980 report will update the above series to 1978 and may revise some of the information for earlier years.

[a]The apparent domestic market equals domestic production plus imports minus exports.

[b]Cotton textile product imports are comprised of yarn, woven fabric, wearing apparel, and miscellaneous.

[c]Wool textile product imports are comprised of tops and yarn, woven fabric, apparel, and other manufactures.

[d]Man-made fiber textile imports are comprised of fiber yarns, fiber textiles, and apparel products.

THE IMPACT OF A TARIFF REDUCTION AND MARKET EROSION AT THE NATIONAL LEVEL

The first step in the analysis is to estimate, at the national level, the expected influence of a tariff change and continued market erosion on domestic output of textile goods. These results can then be used to determine regional earnings and employment effects.

Tariff Reduction

The line of causation between a tariff reduction and the expected decline in domestic output can be described as follows. First, since the ad valorem

tariff on textile goods is an import tax based on value, a reduction in this tax will reduce the price of these goods relative to domestically produced goods. With all other factors remaining constant, this price decline will increase the amount of imported goods demanded and decrease demand for domestic output. One would then expect an increase in imports and a decrease in domestic output.

To determine empirically the expected domestic output influence of a tariff reduction, it is necessary to have a knowledge of two key relationships. The first of these is the **price elasticity of import demand.** That is, given a price decline in imports resulting from a tariff cut, how "responsive" is the amount demanded to this price change? If the import price falls by 1 percent, does domestic consumption (and thus imports) increase by .25 percent (unresponsive) or by 3 percent (responsive)? A measured price elasticity of imports will provide the answer to this question. Given this information, the second relationship needed relates changes in domestic output to changes in imports and is called the **import elasticity of output.** Again, with the first elasticity measure, this is an indicator of responsiveness. However, now there is a need to know how "responsive" domestic output is to changes in imports.[4] Thus, if the increase in imports is known, the expected decline in domestic production can be determined via a measured import elasticity of output.

TABLE 2. Imports as a Percentage of Domestic Production, 1967-'77

Year	Cotton Textile Products[a]	Wool Textile Products[b]	Man-Made Fiber Textile Products[c]
1967	10.0%	27.1%	3.9%
1968	11.4	33.5	4.6
1969	12.4	33.5	5.3
1970	12.0	32.3	8.2
1971	12.4	32.5	10.5
1972	15.8	24.6	9.4
1973	15.4	24.8	7.3
1974	15.2	25.6	6.3
1975	16.5	21.8	6.4
1976	20.8	28.8	7.1
1977	21.0	40.5	7.4

Source: Same as Table 1, this article.

[a]Domestic production is measured in terms of mill consumption of cotton. See note b in Table 1, this article, for a description of cotton textile product imports.

[b]See note c in Table 1, this article, for a description of wool textile product imports.

[c]See note d in Table 1, this article, for a description of man-made fiber textile imports.

The above discussion implies a two-step procedure that can be summarized as follows:

(1) $\%\triangle M = \%\triangle P^m \cdot \eta$
(2) $\%\triangle Q = \%\triangle M \cdot \beta$

where

$\%\triangle M$ = percentage change in imports

$\%\triangle P^m$ = percentage change in the price of imported goods

η = price elasticity of import demand

$\%\triangle Q$ = percentage change in domestic output

β = import elasticity of output.

Equation (1) simply indicates that the expected change in imports ($\%\triangle M$) equals the price change ($\%\triangle P^m$) times the price elasticity of import demand (η). For example, if a tariff reduction lowered import prices by 2 percent and the price elasticity equaled -.5, then imports would increase by 1 percent. Equation (2) then is used to determine the domestic output effect of the tariff cut. If the import elasticity of output were -.75, then the 1 percent increase in imports (due to the tariff cut) would result in a .75 percent decline in domestic production.

Utilizing national historic textile data and a domestic supply model for the textile industry, these authors have estimated the import elasticity of output (β) to be -.26. Using a demand model for textile goods, they also have found[5] the price elasticity of import demand (η) to be -.33. With these measures and the 30 percent tariff, it is possible to estimate the expected output effect.

The percentage change in import price ($\%\triangle P^m$) in Equation (1) is **not** 30 percent. What is being considered is a 30 percent reduction (to be spread equally over 11 years) in the existing tariff level. The average ad valorem trade weighted tariff on all imported textile goods is currently 17.5 percent.

While the actual tariff reductions were made at the 7-digit TSUSA (Tariff Schedules of the USA) level, the average for all textile goods is very close to 30 percent.

[4]Most previous studies have assumed that increased imports will result in decreased domestic production by an equal amount. Given that total expenditures on textile goods may be increasing, plus other considerations, these authors believe this to be an unrealistic assumption. For these arguments see J. Pelzman and R. C. Martin, "Direct Employment Effects of Increased Imports: A Case Study of the Textile Industry," Office of Foreign Economic Research, U.S. Department of Labor, Economic Discussion Paper 6 (1980).

[5]Ibid.

Therefore, a 30 percent reduction would result in a new tariff level of 12.25 percent at the end of the period. If all of this is passed on to consumers in the form of price cuts, this would amount to an average annual price decline of .41 percent.[6] Thus Equation (1) would become

$$(3)\ \%\triangle M = (-.0041)(-.33) = .00135$$

or a 30 percent tariff reduction spread over 11 years would lead to a .135 percent annual increase in imported textiles. Putting this value and the import elasticity of output into Equation (2) yields

$$(4)\ \%\triangle Q = (.00135)(-.26) = -.00035$$

In other words, the proposed tariff cut will generate estimated annual declines in domestic output of .035 percent.

Market Erosion

The approach taken in estimating the influence of continued growth in imported textile goods on domestic output is quite straightforward. It will be assumed that the pattern of growth in the value of imported textile products established in the past will continue into the future. Using quarterly value of imports for the period 1964-'77, it is possible to extrapolate the value of imports for the years 1980 through 1990. The resulting estimates of increased imports due to market erosion are presented in column 1 of Table 3. These percentages decline over time because the total level of imports increases over the same period. It should be noted that the underlying assumption behind these market erosion figures is that no fundamental changes in the relative competitiveness of the United States textile industry will occur. In the event that the United States industry becomes relatively more competitive, these figures may be overestimates. On the other hand, if the domestic textile industry should lose ground, these figures will underestimate their relative market loss. These market erosion figures are converted into domestic output effects in column 3 of Table 3 through the use of the import elasticity of output estimates presented in column 2 of Table 3.

Tariff Cuts Plus Market Erosion

The final task of this section is to compare the relative magnitudes of the tariff cut effect and the market erosion effect and to present the total impact of these factors on domestic output. Table 4 provides the **cumulative** estimates of the impact of (1) a 30 percent tariff cut, (2) market erosion, and (3) the combined effect. Cumulative percentages are shown for 1980, 1985, and 1990.

TABLE 3. Percentage Decrease in Domestic Output of Textiles Resulting from Market Erosion, 1980-'90

Year	Percentage Increase in Imports (1)	Import Elasticity of Output (2)	Percentage Decrease in Domestic Output (3) = (1) X (2)
1980	03.8%	-.26	-00.99%
1981	03.7	-.26	-00.96
1982	03.6	-.26	-00.94
1983	03.5	-.26	-00.91
1984	03.3	-.26	-00.86
1985	03.2	-.26	-00.83
1986	03.1	-.26	-00.81
1987	03.0	-.26	-00.78
1988	02.9	-.26	-00.75
1989	02.9	-.26	-00.75
1990	02.8	-.26	-00.73

TABLE 4. Percentage Decrease in Domestic Output of Textile Products Resulting from Tariff Reduction and Market Erosion: Cumulative for 1980, 1985, and 1990

Year	Percentage Decrease in Output Resulting from a 30 Percent Tariff Reduction (1)	Percentage Decrease in Output Resulting from Market Erosion (2)	Total Percentage Decrease in Output (3) (1)+(2)
1980	-00.035%	-00.99%	-01.03%
1985	-00.21	-05.49	-05.70
1990	-00.39	-09.31	-09.70

It is apparent that the major share of estimated total decline in domestic output arises from the market erosion effect. Column 3 implies that by 1990, domestic output will be 9.7 percent lower than it **would have been** without market erosion or the cut in tariff levels. Of this lower output, 9.3 percent is due to market erosion and only .4 percent to the tariff charge. The reason for the relatively small influence on output stemming from a tariff cut is twofold. First, the percentage change in price resulting from a 30 percent reduction in the tariff was very small. From previous calculations it was shown that such a cut results in a total import price decline of only 4.5 percent, which is then spread over an 11-year period. The second reason is the relatively inelastic (unresponsive) nature of domestic demand to changes in import prices. A

[6] The calculation of the percentage change in price is $\%\triangle P = (.30)(.175)/1.175 = .0446$ or an **average** annual change over 11 years of .00406.

price elasticity of import demand of -.33 implies that a 1 percent decline in the price of textile imports will result in only a .33 percent increase in imports.[7]

The Regional Impact of a Tariff Reduction and Market Erosion

The impact of the reductions in national textile output discussed above will not, of course, be evenly spread throughout the various regions of the country. In this section how a tariff reduction and continued market erosion might affect the major textile producing areas in North Carolina, South Carolina, and Georgia will be examined. The areas to be considered are shown in the figure for this article.

The Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce has defined 173 multicounty areas for the United States that (1) are economically specialized and (2) surround a major population center for which the area is named.[8] This study used 15 of these areas (5 in North Carolina, 4 in South Carolina, and 6 in Georgia).

Regional Earnings Effect

Since measures of gross output for such multicounty areas are not presently available, labor earnings will be used to measure the geographic effect of output changes. Labor earnings for a particular industry includes the sum of all wages and salaries, all fringe benefits, and profits of noncorporate businesses associated with that industry. In textiles, labor earnings account for more than 80 percent of the total income originating in the industry. Also, on average, earnings account for approximately 80 percent of the total personal income of any area. Thus, it is both a comprehensive and a regionally-specific measure of economic activity.

In calculating the geographic reductions, two major assumptions are made. First, although **levels** of gross output and labor earnings differ, the two measures of economic activity tend to move together over the long run.[9] Thus, it is assumed that a 1 percent reduction in domestic output for a geographic area will result in a 1 percent reduction in textile labor earnings for that area. Second, it is assumed that all geographic areas will experience declines in earnings proportional to the declines in national output. That is, if national textile output declines by X percent, each region will experience a decline in textile earnings of X percent. Since concentrations of textile activity vary a great deal among regions, the relative impacts will, of course, differ substantially.

The first task is to estimate the impact of a tariff reduction and market erosion on labor earnings for each of the 15 areas studied here. To do this, some idea of the expected **level** of textile earnings in each area over the period of concern (1980-'90) will be needed. The Bureau of Economic Analysis, the U.S. Department of Agriculture, and the U.S. Water Resources Council have joined forces to provide a series of projections of economic activity at the regional level. One set of these projections includes industry earnings and employment for the BEA Economic Areas used in this article, and projects these values over the 1980-'90 period.[10] Using these projected textile earnings and the estimated output effects of the tariff change and market erosion computed earlier in this article, Table 5 shows the **cumulative** labor earnings decline in textiles for each area.

As previously noted, the tariff effect is quite small relative to the impact of continued market erosion. As shown in column 1 of Table 5, only 5 of the 15 areas are shown to lose over $1 million (1967 dollars) in textile labor earnings over the next 10 years due to a 30 percent cut in the tariff on imported goods. The largest of these is the Charlotte, North Carolina, area where approximately $4.4 million will be lost. In South Carolina, the largest decline is for the Greenville area, where a $2.7 million earnings decline is expected. However, as shown in column 3, when one includes the impact of market erosion, the regional losses in labor earnings become much more significant. The total loss in earnings due to both factors for the Charlotte area rises above $100 million, and Greenville's loss increases to $67 million. For all 15 BEA areas, textile earnings will be $15 million lower as a result of the tariff cut and $366 million

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[7] The rather low price elasticity of demand for imported textiles may reflect the effect of existing quantitative restrictions (e.g., the Multifiber Agreement) which could distort the normal market forces at work through prices.

[8] See U.S., Department of Commerce, Bureau of Economic Analysis, "The BEA Economic Areas' Structural Change and Growth 1950-'73," **Survey of Current Business** (November 1975) 14-25.

[9] This is supported by the fact that the long-run elasticity of employment for textile production is 1.049 or nearly unitary. See M.I. Nadiri and S. Rosen, **A Disequilibrium Model of Demand for Factors of Production** (New York: Columbia University Press, 1973).

[10] **OBERS Projections: Regional Economic Activity in the U.S.**, Vol. 2 **BEA Economic Areas** (Washington, D.C.: U.S. Water Resources Council, 1974).

FIGURE. BEA Economic Areas

lower due to market erosion for a total of $381 million. In current 1980 dollars, the total estimated earnings loss becomes $944 million. The changes expected in Charlotte and Greensboro, North Carolina, and Greenville, South Carolina, will account for 64 percent of this decline.

Regional Employment Effect

While the estimated labor earnings declines shown in Table 5 are informative, perhaps a more meaningful measure of impact would be the number of jobs represented by these declines in labor earnings. In Table 6, estimates of employment effects are shown for each of the 15 BEA Economic Areas. These figures were generated by dividing the estimated earnings figures by the average textile earnings for the area (where average textile earnings per worker = total textile earnings ÷ total textile employment). For example, when the Water Resources Council's projections[1] are used, the average earnings per worker during the 1980-'90 period for the Raleigh, North Carolina, BEA Economic Area are $7,482 (1967 dollars). As indicated in Table 5, it is estimated that textile earnings will decline by $1.084 million in this area due to the tariff cut. Thus, the expected decline in textile employment due to the tariff cut for the Raleigh Economic Area is 145 workers ($1.084 million ÷ $7,482). This procedure was followed for each of the areas and for both the tariff and market erosion factors. The resulting employment declines are shown in columns 1 through 3 of Table 6.

Considering both the tariff and the erosion factors, then, the $381 million loss in textile earnings for the entire 3-state area translates into approximately 48,400 fewer textile jobs than would have been created over the 10-year period. Of this total, 46,400 will be the result of market erosion and only 2,000 will be caused by the tariff cut. Again, the dominance of the erosion effect is obvious. At the BEA area level, Charlotte should experience a 15,000-job loss and Greenville and Greensboro, 8,000 each.

The influence of these factors on the local areas does not, however, stop with the impact on the textile industry. A reduction in output, earnings, and employment in textiles will have an effect on other sectors of the local economy as well. For example, local producers who provide the textile mills with intermediate inputs (e.g., chemical dyes) will find their sales declining. Local merchants who provide goods and services to textile workers will also experience reduced levels of business activity. In each of these cases, reduced sales mean lower employment opportunities and fewer jobs. Thus, these estimated lower levels of textile activity will generate a "ripple" effect throughout the local economy, influencing those who supply the textile producers and those who provide goods and services to textile employees and consumers generally.

TABLE 5. Regional Effects of Tariff Change and Market Erosion on Textile Labor Earnings, 1980-'90 (millions of 1967 dollars)

BEA Area	Decrease in Textile Earnings: 30 Percent Tariff Change Only (1)	Decrease in Textile Earnings: Market Erosion Only (2)	Total Decrease in Textile Earnings (3)
Raleigh, N.C. (#23)	$ 1.084	$ 25.981	$ 27.065
Wilmington, N.C. (#24)	.136	2.968	3.104
Greensboro, N.C. (#25)	2.700	64.850	67.550
Charlotte, N.C. (#26)	4.365	104.811	109.176
Asheville, N.C. (#27)	.353	8.487	8.840
Greenville, S.C. (#28)	2.690	64.645	67.335
Columbia, S.C. (#29)	.357	8.552	8.909
Florence, S.C. (#30)	.433	10.347	10.780
Charleston, S.C. (#31)	.067	1.458	1.525
Augusta, Ga. (#32)	.430	10.458	10.888
Savannah, Ga. (#33)	.079	1.893	1.972
Albany, Ga. (#41)	.200	4.791	4.991
Macon, Ga. (#42)	.245	5.867	6.112
Columbus, Ga. (#43)	.734	17.648	18.382
Atlanta, Ga. (#44)	1.380	33.148	34.528
Total	$15.253	$365.904	$381.157

One method of estimating the influence of a tariff cut and market erosion on **total** area employment is to use a set of so-called regional "multipliers." These multipliers have been generated by the Bureau of Economic Analysis for use in regional impact studies and they allow one to translate a given change in activity for one industry into a change in total activity for the region (including the indirect influences noted in

[1] Ibid.

TABLE 6. Regional Effects of Tariff Change and Market Erosion on Textile and Total Employment, 1980-'90

BEA Area	Decrease in Textile Employment: 30 Percent Tariff Change Only (1)	Decrease in Textile Employment: Market Erosion Only (2)	Total Decrease in Textile Employment (3)	Multiplier (4)	Decrease in Total Employment (5)	Percentage of 1980 Total Employment (6)
Raleigh, N.C. (#23)	145	3,472	3,617	2.936	10,619	1.4%
Wilmington, N.C. (#24)	18	389	407	2.447	996	.5
Greensboro, N.C. (#25)	326	7,839	8,165	2.990	24,413	3.7
Charlotte, N.C. (#26)	593	14,244	14,837	3.235	47,998	5.9
Asheville, N.C. (#27)	46	1,106	1,152	2.794	3,219	1.8
Greenville, S.C. (#28)	317	7,611	7,928	3.006	23,832	5.5
Columbia, S.C. (#29)	46	1,100	1,146	2.907	3,331	1.1
Florence, S.C. (#30)	55	1,320	1,375	2.583	3,552	2.0
Charleston, S.C. (#31)	8	175	183	2.672	489	.3
Augusta, Ga. (#32)	50	1,199	1,249	2.657	3,319	1.7
Savannah, Ga. (#33)	9	209	218	2.548	555	.3
Albany, Ga. (#41)	25	609	634	2.341	1,484	.7
Macon, Ga. (#42)	31	740	771	2.509	1,934	.9
Columbus, Ga. (#43)	90	2,160	2,250	2.620	5,895	2.9
Atlanta, Ga. (#44)	179	4,294	4,473	3.359	15,025	1.2
Total	1,938	46,467	48,405	—	146,661	2.4%

the preceding paragraph).[12] The multiplier values associated with the textile industry for each of the areas of concern are shown in column 4 of Table 6. The 2.9 value for Raleigh, North Carolina, would indicate that for every textile job lost in this area, total employment will decline by 2.9 (i.e., 1 textile job and 1.9 other jobs). These multipliers then are used to translate textile employment reductions into estimated **total** area employment losses.

Using this approach, the estimated 48,400 fewer textile jobs in the 3-state area becomes almost 147,000 (2.4 percent of total 1980 employment). At the local area, these figures become even more significant. For Charlotte, North Carolina, market erosion and a tariff cut will result in nearly 48,000 fewer jobs over the 1980-'90 period or a cut equal to nearly 6 percent of the 1980 employment level. It is estimated that the Greenville, South Carolina, area will experience a loss of nearly 24,000 jobs or 5.5 percent of 1980 total employment. The reader should again note, however, that a vast majority of this lower employment is coming from the trend of increasing imports (market erosion) and not the 30 percent reduction in tariffs on textile products.

[12] **Industry-Specific Gross Output Multipliers for BEA Economic Areas.** Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce (January 1977). The use of these output multipliers in Table 6 would seem appropriate given the close long-run relationship between output and employment in the textile industry. See footnote 10.

SOME CONCLUDING OBSERVATIONS

In this article these authors have attempted to provide a realistic and conceptually sound assessment of the expected effect on the textile industry of a proposed 30 percent tariff cut and continued growth in imports. Their findings lead to several interesting observations. First, the combined employment influence of both factors is, by anyone's standards, significant. An estimated job loss of 147,000 over 11 years in a 3-state area is not a pleasant number. However, the bulk of this estimated employment effect is coming from a long established upward trend in imported textiles, a trend that has persisted in spite of tariff and quota protection. It would appear then, that a tariff reduction of the size considered in this article would add very little to the number of employment opportunities foregone. Finally, the estimates here of the regional distribution of these employment effects show that the employment costs of continued market erosion and a tariff cut are not spread evenly among the various areas of the 3-state region being studied. Areas such as Charlotte, Greenville, Greensboro, and Columbus are estimated to have relatively higher losses than the other 11 areas.

To summarize, the implications of these findings imply that if past trends continue, market erosion in the domestic textile industry will generate significant employment opportunities foregone in Georgia and The Carolinas, and these losses will be highly concentrated in a few geographic areas. Further, the contribution of the proposed tariff cut to these losses appears quite small.

So What's New with Performance Appraisal?

By Stuart A. Youngblood

Nearly 25 years have passed since Douglas McGregor took an uneasy look at performance appraisal and observed that ". . . managers are uncomfortable when they are put in the position of 'playing God.'"[1] Despite this continued uneasiness, however, performance appraisals today are part and parcel of the personnel management systems of most organizations.

Performance appraisals, in theory, provide the basis for a number of important human resource decisions and functions: to allocate salary increases, promotions, transfers, demotions, layoffs, or terminations; to provide diagnostic information to direct additional training efforts; to provide feedback for coaching or counseling purposes to let an employee know where he or she stands; to improve future job performance; or to serve as a criterion for the validation of selection procedures. In recent studies of small and large firms by both the Bureau of National Affairs and the Conference Board, a majority of the employers surveyed (70 to 80 percent) conduct performance appraisals annually in conjunction with reward, staffing, training and/or validation needs.

With such widespread use of performance appraisals, one might reasonably ask why performance evaluation has so many critics. As any manager readily knows, appraisals often require human judgment, judgment that is easily prone to bias, especially to the type of bias proscribed by fair employment practice law. To minimize the potential bias in appraisals, a plethora of appraisal instruments and procedures have been developed by personnel researchers over the past 20 years. To the practitioner, however, the switch to a new rating instrument often translates into another cumbersome and time consuming nuisance seemingly unrelated to the overall business goal of producing a product or service at a competitive price. For those employers who have had their appraisal systems subjected to litigation, however, the costs of a successful challenge may easily surpass that of mere vexation. For the subordinate,

[1] D. McGregor, "An Uneasy Look at Performance Appraisal," **Harvard Business Review** 35 (1957): 89-94.

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the annual submission to the appraisal process frequently provokes remarks such as "well, there wasn't any money available for merit raises this year, so my supervisor had to really nit-pick to find a justification for my just-average rating."

In short, the subjective nature of appraisals as well as the lack of clear purpose for the use of evaluations have led critics to question the job relatedness of the entire appraisal process. An unfortunate consequence of the growing dissatisfaction with appraisal systems is the increasing role of the judiciary in shaping the use and interpretation of performance appraisals in the management of human resources.

THE COURTS AND PERFORMANCE APPRAISAL

With the advent of the Civil Rights Act of 1964 and the landmark Supreme Court test case of **Griggs v. Duke Power Company** (1971), performance appraisals have been scrutinized from a number of different perspectives. A Title VII case usually follows a familiar pattern. A plaintiff alleges Title VII discrimination (race, sex, color, religion, and or national origin) due to an employment practice. The burden of proof is initially upon the plaintiff to show that the practice results in adverse impact (the selection, promotion, training, termination, etc. of proportionately less [or more] of the minority class of workers than the majority). If the plaintiff can show adverse impact or a prima facie case of discrimination (the ways to do so are too numerous for discussion here), then the burden shifts to the employer to provide a job-related reason or business necessity for engaging in the employment practice. If this reason is acceptable to the court, the burden shifts back to the plaintiff to show that the purported reason is merely pretextuous or that alternative employment practices are available that result in less adverse impact.

Initially, the focus on performance appraisals occurred in cases where tests that were used to select job applicants resulted in adverse impact. When the burden shifted to the employer to defend the use of the test, one strategy for showing the job relatedness of the testing procedure was to compare the test scores of selected employees with their job performance (as measured by a supervisory rating). The courts were quick to recognize, however, that observed correlations between test scores and supervisory ratings could be spurious due to bias and or unreliability of the supervisory rating of performance.[2] In the 1975 **Albermarle Paper Company v. Moody** case, the court reasoned that performance rating items such as "excluding a man's attitude, just how well can a guy do the job when he's feeling right" were not valid or job related.

More recently, though, performance appraisals have been examined, **not** as criterion measures for demonstrating the job relatedness of employment tests, but as tests in their own right. The notion very simply is that when a promotion, merit increase, transfer, or layoff of a **current** employee is made on the basis of a performance rating, then the rating serves in the same manner that a high school degree requirement, a physical examination, an employment interview, or a paper and pencil measure of aptitude does in the selection of a **new** employee. In **Wade v. Mississippi Cooperative Extension Service,**[3] the court held that the appraisal instrument used for the promotion of county professional workers discriminated against blacks because the evaluations were largely influenced by subjective supervisory judgments; appraisal scores differed significantly on the basis of race; the appraisal instrument was not based on a job analysis; and no data were presented to show that the ratings were related to actual job performance.

In a similar fashion, appraisal systems have been challenged where foremen have been asked to make recommendations for promotion and transfer, or an appraisal has been used to lay off, demote, or terminate a worker.[4] It is interesting to note that a recent court decision, while recognizing the subjective nature of the appraisal system, ruled that subjective performance evaluations are **not** a per se violation of Title VII and hence do not shift the burden of proof to the employer.[5]

The key issue in Title VII cases is whether employment decisions based on performance appraisals result in adverse impact. If they do, then the employer must demonstrate the validity or job relatedness of the appraisal system. Another recent court test illustrates this shifting of burden whereby an Assistant Professor denied tenure at a small college challenged the evaluation of his performance by his department and the college tenure and promotion committee.[6] The professor

[2] Albemarle Paper Company v. Moody, 10 FEP 1181 (1975)

[3] Wade v. Mississippi Cooperative Extension Service, 372 F Supp 126 (1974)

[4] Rowe v. General Motors Corporation, 350 F Supp 139 (1972); Barnes v. Jones County School District, 22 FEP 1519 (5th Cir 1978); Brito v. Zia Company, 478 F 2d 1200 (1973); Barnett v. Cincinnati Bell, Inc., 22 FEP 1530 (1980); Coleman v. Missouri Pacific Railroad, 23 FEP 122 (8th Cir 1980)

[5] Ward v. Westland Plastics, Inc., 23 FEP 128 (9th Cir 1980)

[6] Banerjee v. Board of Trustees, Smith College, 23 FEP 131 (1980)

was able to demonstrate a prima facie case of discrimination, but the college was able to rebut successfully the plaintiff's charge that the performance evaluation was the subject of racial and national origin discrimination.

In summary, the courts have examined performance appraisals both as criterion measures and tests in the context of employment decisions. Regardless of how appraisals are used, however, several recommendations follow from a review of these court challenges to the use of performance appraisals.

First, a job analysis should precede the development of any performance appraisal instrument. If any job changes are due to technological innovations or accommodation to an available labor force, then a new job analysis may be required. The primary function of the job analysis is to provide a description of the duties required and to specify the requisite skills necessary for the job incumbent to perform successfully. Appraisals developed systematically from a job analysis are much more likely to withstand the test of job relatedness.

Second, the appraisal system should focus on either the necessary behavior required to perform the job successfully or the actual results or consequences of behavior required to do the job, and **not** on subjective traits, such as attitude toward people, capacity for growth, public acceptance, dependability, cooperativeness, ingenuity, etc.

Finally, the personnel function can contribute significantly to a science-based approach to the development of a reliable and valid performance appraisal system. As one personnel director observed, appraisal systems are "like religion: if there were one right one, I'm sure we'd all believe in it." Because organizations use appraisals differently for a variety of employment decisions, a number of key issues must be addressed before an appraisal system is adopted. The personnel staff has primary responsibility to insure that these issues are addressed and that the appraisal system serves the purpose for which it was designed while meeting current and future legal challenges.

BASIC ISSUES FOR THE DEVELOPMENT OF AN APPRAISAL SYSTEM

From the considerable body of research literature that has accumulated over the past 25 years on the development and implementation of effective appraisal systems, a number of key issues can be identified that aid in the assessment of a current appraisal system or the development of a new system. These issues are discussed below.

Appraisal for What Purpose?

Some organizations view performance appraisal as a means to reward the high performers. From a motivational viewpoint this is desirable, if the employees perceive the connection between their efforts, results, and subsequent rewards. Appraisals can serve this purpose by identifying what behaviors will be rewarded and by providing feedback to employees to enhance their learning that effort can be translated into valued on-the-job behaviors.

Yet, in other organizations, the degree of variation between the lowest and the highest performer may be small or the overall effort required to perform the job satisfactorily may be easily attained by all workers. The role of performance appraisal in this instance might be better served by the need to let workers know where they stand or to provide training to new or probationary employees.[1]

In short, appraisals can be used in any number of ways: to allocate rewards, to insure consistent performance, to provide feedback for the learning of new tasks, and so forth. A basic distinction in the goals of performance appraisal is that reward allocation and employee development coaching are generally incompatible. People naturally become defensive if they sense they are being evaluated and hence may not be receptive to coaching or feedback. One solution where companies pursue both these goals with the appraisal is to separate the timing of the reward allocation from the coaching feedback session between the superior and the subordinate. Fundamentally, though, with the information from the job analysis the organization must decide the goals or objectives the appraisal is intended to serve.

What Is to be Assessed?

The consensus among reviewers of performance appraisal research is that the rating process must remove the rater from the role of judge to that of observer.[2] Craig Schneier and Richard Beatty have

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Richard McCracken as quoted in H. B. Anderson, "The Rating Game," **Wall Street Journal**, 23 May 1978.

See, for example, T. A. DeCotiis and A. Petit, "The Performance Appraisal Process: A Model and Some Testable Propositions," **Academy of Management Review** (1978): 21: 635-646; L.L. Cummings and D.P. Schwab, **Performance in Organizations** (Glenview, Ill.: Scott, Foresman Co., 1973); F.J. Landy and J.L. Farr, "Performance Rating," **Psychological Bulletin** 87 (1980): 72-106.

recently discussed two methods of appraisal that focus either on behavior or on the results of effective job behavior.[1] These methods are Behaviorally Anchored Rating Scales (BARS) and Management by Objectives (MBO). Schneier and Beatty propose that these methods can be integrated successfully to provide an evaluation of employee performance.

BARS instruments are an alternative to the commonly used graphic rating scale and hold promise as a means to reduce the often encountered rater errors of halo, central tendency, leniency, and recency effects. A BARS scale differs from a graphic rating scale in two important aspects. First, a BARS scale is anchored with actual descriptions of behavior instead of the one-word adjectives used for a graphic rating scale. Second, the development of the BARS scale requires participation from future users of the rating instrument to provide critical incident descriptions of on-the-job behaviors, to identify performance dimensions, to assign critical incidents of behavior to these dimensions, and to scale the incidents along each performance dimension. The degree of participation required of future users of the BARS instrument thus enhances acceptance of the appraisal system and provides valuable training in the use of the rating scale.

MBO is actually a goal setting process that encourages the subordinate to set concrete, measurable performance objectives against which future performance can be compared. The primary difference between the MBO and BARS systems is that the latter focuses on job activities engaged in while the former focuses on the **results** or **consequences** of those activities. This distinction is essential in understanding why MBO systems often fail. As Levinson has observed, the executive who turns around an ailing division may do so by using abrasive tactics, dictatorial rule, termination, and transfers; and, in some cases, by engaging in unethical business practices.[2] By centering on results, an MBO system may overlook the identification and reward of the **appropriate** job behaviors required to achieve self-set objectives. Schneier and Beatty's recommendation that MBO and BARS systems be integrated is an explicit recognition that in many organizations the selected path to job success is as important as the actual achievement of that success.

[1] C. Schneier and R. Beatty, "Integrating Behaviorally-Based and Effectiveness-Based Methods," **Personnel Administrator** (July, August, and September 1979 issues).

[2] Levinson, H., "Appraisal of What Performance?" **Harvard Business Review** (July-August 1976).

How Often Should Assessment Occur?

Most experts agree that learning is enhanced by feedback. Recommendations for the frequency of appraisal range anywhere from bimonthly to biannually. First-line supervisors know from experience, however, that with new or probationary employees feedback on a daily basis may be necessary for the learning of new job duties. The paradox of many appraisal systems is that the feedback the system is designed to encourage often becomes institutionalized on a once or twice a year basis or not at all. Hence, the best laid plans for a state of the art appraisal system can go awry, if, in the implementation phase, the role of feedback is lost.

Who Should Provide the Assessments?

Because many appraisal systems explicitly require the observation of human behavior on the job, the immediate supervisor often is the logical choice as the appraiser. If, however, the supervisor has responsibility for a large number of subordinates, his or her observation may consist of sampling the behavior of subordinates infrequently. Jobs that do not require close supervision (such as managerial positions) may not lend themselves readily to the superior-oriented observation approach. Alternative recommendations are to consider self or peer ratings as distinct sources or "samplings" of on the job behavior. Multiple rater sources as well as repeated ratings also can provide valuable information on intra- as well as inter-rater reliability, an important issue when appraisal systems are legally challenged.

What Appraisal Format Should Be Used?

Variations of the MBO and BARS systems are widely used today. The following criteria should be taken into consideration, however, when a current or proposed appraisal format is being evaluated.

1. Does the appraisal instrument yield dispersion on performance dimensions that are expected to vary across employees?
2. Does the format **minimize** (not eliminate) the commonly committed rater errors of halo, central tendency, leniency, and recency effects?
3. Does the appraisal provide information consistent with the stated objectives of the evaluation? (**Has** a job analysis been conducted?)
4. Is the appraisal cost effective? That is, are the costs of collecting appraisals less than

or equal to the benefits received from the information?

5. Is the appraisal system accepted and understood by both the appraiser and the appraisee?

Does Your Appraisal System Work?

In the broader perspective the appraisal process is one of a number of interrelated personnel activities designed to improve or maintain employee performance. To the extent that other measures of individual or unit performance data agree with appraisal data, confidence can be placed in the appraisal system.

The ability of the appraisal process to encourage continued high levels of performance rather than create a wave phenomenon (here today but out to sea tomorrow) is another indication of long-term effectiveness. Of course, the ability of the system to withstand legal challenges of bias or discrimination by averting adverse discrimination cannot be overlooked.

The ability of the appraisal system to provide continued diagnostic information for other personnel subsystems is yet another aspect of overall effectiveness. For example, the need for additional training because of relaxed selection procedures, or reduced applicant quality because of affirmative action recruitment or labor market changes, can be met by timely and accurate performance evaluations.

In summary, the goodness of any appraisal system is a function of the objectives for which it was designed. A science-based approach to the development of the format, training of appraisers, and the continual process of feedback and review are necessary to insure that the appraisal system achieves the objectives for which it was intended.

The Management Bookshelf

By Dwight Gardner, Business Librarian, M.B.A., M.S.L.S.

The Management Bookshelf is a service to our readers provided by the Elliott White Springs Library of the College of Business Administration of The University of South Carolina.

ENTREPRENEUR'S GUIDE
by Deaver Brown
The Macmillan Co.
866 Third Ave.
New York, NY 10022
1980, 200 pp., $8.95
This volume will be of interest to every potential entrepreneur. It contains practical advice on all phases of a business operation, especially in the area of manufacturing. The author, a successful inventor, also includes his personal philosophy of success.

TEAM DEVELOPMENT MANUAL
by Mike Woodcock
Halsted Press
605 Third Ave.
New York, NY 10158
1979, 221 pp., $23.95
This author contends that since organizations consist of people working together, a manager's prime responsibility is to develop effective teams. Drawing on his own experience in team development programs, Woodcock covers the fundamental components of teamwork and the practical aspects of adopting his approach to the reader's organizational environment.

SECRETS OF A CORPORATE HEADHUNTER
by John Wareham
Atheneum Publishers
Division of Scribner Books
122 E. 42nd St.
New York, NY 10017
1980, 256 pp., $10.95
The author draws on his experience in operating an international executive search firm to give the reader an insider's view of the corporate headhunter. Using the principles of management psychology, he explores what motivates the successful executive and includes specific advice on the art of selecting employees.

STATISTICAL INDICATORS OF SOUTH CAROLINA BUSINESS

ITEMS	August 1980	August 1979	Latest Month Percentage Change from Year Ago
Deposits, Member Banks ($ millions)	$ 3,201	$ 2,997	+ 6.8
Demand	1,634	1,601	+ 2.1
Time	1,567	1,396	+ 12.2
Loans, Member Banks ($ millions)	2,206	2,061	+ 7.0
Savings in Savings and Loan Associations ($ millions)	5,320.6	4,968.7	+ 7.1
Sales and Use Tax Collections ($ thousands)	47,099.5	43,477.3	+ 8.3
Labor Market			
Civilian Labor Force (thousands)	1,321.4	1,339.6	- 1.4
Employment	1,230.8	1,275.9	- 3.5
Rate of Unemployment (percentage)	6.9	4.8	+ 43.8
Nonfarm Wage and Salary Employment (in thousands)	1,174.3	1,165.8	+ 0.7
Manufacturing	386.2	394.1	- 2.0
Contract Construction	70.8	67.8	+ 4.4
Transportation and Public Utilities	53.8	52.1	+ 3.3
Wholesale and Retail Trade	231.8	226.5	+ 2.3
Finance, Insurance, and Real Estate	49.5	47.2	+ 4.9
Services, Mining, and Miscellaneous	165.1	163.2	+ 1.2
Government	217.1	214.9	+ 1.0
Average Hourly Earnings, All Manufacturing (in dollars)	$ 5.70	$ 5.20	+ 9.6
Initial Unemployment Claims Filed in South Carolina	20,647	22,398	- 7.8
Placements by South Carolina Employment Offices (nonagricultural)	6,672	7,871	- 15.2
Indexes of Prices Received by Farmers (1966-68=100)			
All Farm Products	217	211	+ 2.8
All Crops	232	229	+ 1.3
Livestock and Products	220	205	+ 7.3
S.C. Parity Ratio	76	84	- 9.5
New Motor Vehicle Registrations			
Cars	8,534	11,482	- 25.7
Trucks	2,154	3,550	- 39.3

	August 1980	August 1979	First 8 Months 1980	First 8 Months 1979	Percentage Change
Valuation of Building Permits Issued ($ millions)					
Total for all S.C. Counties	$156.1	$175.9	$1,140.5	$1,249.2	- 8.7
Available County Data					
Aiken	3.0	3.6	17.0	42.4	-59.9
Berkeley	3.5	5.0	46.9	34.9	+34.4
Charleston	11.2	16.8	112.9	144.6	-21.9
Dorchester	3.6	3.6	23.7	36.5	-35.1
Lexington	8.0	9.1	79.2	64.6	+22.6
Richland	14.0	7.5	86.6	90.6	- 4.4
Greenville	35.6	13.2	141.7	133.9	+ 5.8
Pickens	6.5	3.4	37.2	26.0	+43.1
Spartanburg	10.1	26.8	57.7	97.5	-40.8

*Less than one-half of 1 percent

†Due to the termination of certain data series by the Federal Reserve Bank of Richmond, this series has been replaced by the Federal Home Loan Bank of Atlanta.

‡Ibid., the South Carolina Employment Security Commission.

§Note: These amounts are now being reported in millions instead of thousands of dollars.

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Volume XXVII, Number 4
March-April 1981

"Building Stability into the SCE&G Work Force"
by Hugh W. Weldon and Henderson Guerry, Jr.

"The South Carolina Department of Agriculture: 100 Years of Service to the People"
by Bryan Patrick

"The Employer and Employment Laws"
by James J. Baldwin

"Bottom Lines"
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"Compliance with Executive Order 12086"
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"The Times They Are A'Changing: The Growing Dissatisfaction of the Courts with the Performance of the National Labor Relations Board"
by Lovic A. Brooks III

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Statistical Indicators of South Carolina Business

Summary of Contents

3 **Building Stability into the SCE&G Work Force.** Quality, sales volume, and profit margin are all factors that contribute to an organization's success. Just as real, but not as obvious, are such hard to measure factors as morale, motivation, loyalty, and job satisfaction. In this fourth offering in the **Business and Economic Review's** industrial series, South Carolina Electric and Gas Company's Hugh W. Weldon, Vice-President and Group Executive-Administrative Services, and Henderson Guerry, Jr., Manager of Organizational Development, explain how SCE&G's enlightened human relations program emphasizes such benefits as an employee stock ownership plan, a generous retirement plan, group insurance and health care plans, educational opportunities, and recreational activities to build and maintain the morale of their company's work force.

10 **The South Carolina Department of Agriculture: 100 Years of Service to the People.** South Carolina's Department of Agriculture has served the citizens of this state for 100 years. Bryan Patrick, State Commissioner of Agriculture, describes the numerous and varied activities of this agency and explains that although his department is many things to many people in all walks of life, it is first and foremost an agency dedicated to serving and protecting public trust.

19 **The Employer and Employment Laws,** a regular feature by James J. Baldwin, Partner in the law firm of Haynsworth, Baldwin, and Miles. Most laymen think that before a union can speak for employees at a company, it must win a representation election. "Not necessarily so," cautions Baldwin in his latest column **Unionization without Elections: The NLRB Expands its Use of the Bargaining Order.** Here he explains how the National Labor Relations Board is expanding its "bargaining orders" as a means of imposing a duty to bargain on employees who have not voted in favor of a union.

21 **Bottom Lines,** a regular feature by Dr. James B. Edwards, Professor of Accounting and expert consultant to Management. It's that time of the year when people are again completing their income tax forms. In his third column this year, **Federal Tax Lines,** Dr. Edwards passes along some advice that might be helpful to all taxpayers.

22 **Compliance with Executive Order 12086.** "When everyone is somebody, then no one's anybody," sang Don Alhambra in Gilbert and Sullivan's "The Gondoliers." Dr. Angelo S. DeNisi makes somewhat the same point when he observes that where almost everyone is under the protection of civil rights laws — women, people over 40 years of age, the handicapped, members of minorities — then the protection begins to wear thin and the employer must decide who is the "most" protected.

26 **The Times They Are A'Changing: The Growing Dissatisfaction of the Courts with the Performance of the National Labor Relations Board.** According to Lovic A. Brooks III, a member of the law firm of Constangy, Brooks & Smith, a significant development affecting national labor policy is the ever increasing dissatisfaction of the courts with the decisions and opinions issued by the National Labor Relations Board. Judges claim the NLRB refuses to acknowledge or apply the laws as interpreted by the courts.

31 **The Management Bookshelf,** a regular feature in which Dwight Gardner, USC BA's Business Librarian, reviews books of interest to business practitioners.

32 **Statistical Indicators of South Carolina Business.** A regular feature, listing the latest available data.

business and economic review

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Articles submitted for consideration for publication should concern business and economics topics of interest to managers in the private or public sectors. All manuscripts should be 12-26 double-spaced, typewritten pages, in English. Graphs, mathematical and quantitative data, charts, and tables are acceptable. Authors should submit 2 copies of each manuscript plus a vita sheet and a photograph. Upon publication, 6 complimentary copies of the journal are sent to the authors, with additional copies available upon request. Manuscripts to be considered for publication should be sent to: James M. Black, Editor, **Business and Economic Review,** College of Business Administration, The University of South Carolina, Columbia, S.C. 29208.

Published in Oct., Nov., Dec., March, April, and May by The University of South Carolina as a service for those interested in business and economic matters.

This month's cover: The Fairfield Pumped Storage Hydro Plant, completed in 1978, added 512 megawatts to South Carolina Electric and Gas Company's generating capacity. This unique facility pumps water at night from the Broad River to the Monticello Reservoir — a height of 150 feet. When the daily demand for electricity is greatest, the stored water is released to generate economical electricity. See page 3 of this issue.

Building Stability into the SCE&G Work Force

By Hugh W. Weldon and Henderson Guerry, Jr.

Management has long been concerned with identifying and understanding all possible factors that contribute to an organization's success. The more obvious factors are related to the product itself: quality, sales volume, profit margin, and inventory.

However, just as real, but not as obvious, are those indirect, hard to measure factors: morale, motivation, loyalty, and job satisfaction. These factors are heavily involved in maintaining a high level of productivity. Also, the absence of these qualities contributes to high turnover of work force which leads to increased costs of training new employees. South Carolina Electric and Gas Company (SCE&G) has tried to address this problem by maintaining both a good employee benefits program and excellent working conditions.

SCE&G: PAST AND PRESENT

South Carolina Electric and Gas Company began as the Charleston Gas Light Company in 1846. Since that time, SCE&G and its predecessors have provided electric, gas, and transportation services in South Carolina.

The present South Carolina Electric and Gas Company was incorporated in 1924 as the Broad River Power Company. In 1925, the company acquired the properties of the Columbia Railway, Gas, and Electric Company, which served the city of Columbia and its surrounding area, and in 1934 acquired a transportation system. The company also purchased and added to the system, from time to time, a number of small electric plants and distribution facilities in central South Carolina.

In 1946, the company became an independent operating utility when General Public Utilities Corporation divested itself of ownership. In 1948, the company purchased from Commonwealth and Southern Corporation all the common stock of South Carolina Power Company, which served the southern portion of the state, and acquired its assets two years later.

SCE&G owns and operates over 100 buses that provide transit service in the Columbia and Charleston metropolitan areas. Each year these buses travel nearly 3.7 million miles and carry approximately 8.7 million passengers. The transit department has one of the best safety records in the country, and has won the American Transit Association Safe Driver's Award numerous times.

Hugh W. Weldon is Vice-President and Group Executive-Administrative Services for South Carolina Electric and Gas Company. He has 34 years of service with SCE&G in all areas of personnel work. Weldon began his career with SCE&G in Charleston as Administrative Assistant in 1946. He has held numerous leadership positions in personnel associations and in civic and professional organizations.

Henderson Guerry, Jr. is Manager, Organizational Development for South Carolina Electric and Gas Company. Prior to this position he was Manager-Marketing for SCE&G. Guerry began his career with the company in 1964 as a sales engineer. An Electrical Engineering graduate of The Citadel, he later earned an MBA degree from The University of South Carolina.

South Carolina Generating Company was formed in 1951, and South Carolina Natural Gas Company in 1952. These wholly owned subsidiaries were liquidated in 1963 and 1967, respectively, when their assets were transferred to South Carolina Electric and Gas Company. The company acquired all the South Carolina properties of Atlanta Gas Light Company in 1957.

At present, the company has three operating subsidiaries: Energy Subsidiary, Inc.; South Carolina LNG Company, Inc.; and South Carolina Fuel Company, Inc. Formed in 1968, Energy Subsidiary is engaged in real estate development. To construct and operate liquid natural gas storage facilities, South Carolina LNG Company, Inc. was formed in December 1975. The South Carolina Fuel Company, Inc., formed in September 1979, was organized to finance the company's portion of nuclear fuel for the Summer Nuclear Station.

SCE&G today has total assets in excess of $1.5 billion and is considered to be one of the most efficient and progressive utility systems in the country. An investor-owned utility, its stock is sold on the New York Exchange and is owned by individuals, corporations, and institutions. SCE&G common stock is owned by over 54,000 shareholders who live throughout the nation and in several foreign countries. SCE&G generates, distributes, and sells electricity to approximately 335,000 customers, buys and distributes natural gas to approximately 161,000 customers, and provides bus service to metropolitan Columbia and Charleston.

EMPLOYMENT PRACTICES

Throughout its service area SCE&G now employs approximately 3,300 men and women. The diversity of SCE&G's operation is such that the work force must have various skills including engineering, accounting, law, journalism, business, and finance. Such a variety of needs provides challenging opportunities for a number of prospective employees. The fact that SCE&G's operation is confined to 24 counties in South Carolina (Figure 1) is an asset in the competitive recruiting of engineers and other professionals who prefer to stay close to home or in one confined geographical area.

SCE&G's employment policy is to seek persons interested in long-term careers. The company emphasizes hiring community-minded citizens of high character. Employees are expected to take active roles in civic clubs, professional groups, scouting organizations, and other worthy charitable institutions. The company also encourages employees to pursue professional excellence. This may take the form of high school or college completion, advanced degrees, or certification in the employee's profession. SCE&G builds its philosophy on the belief that as its employees grow and develop, so will the worth and purpose of the organization. In a program designed to commend employers who recognize and encourage professional development, SCE&G was recently named first in the Southeast and second in the nation by the National Society of Professional Engineers.

FIGURE 1: Area of Operation

The shaded area shows that part of the state served by South Carolina Electric and Gas Company. SCE&G has 335,000 electric and 161,000 gas customers in 24 counties with corporate headquarters in Columbia.

The company maintains good relationships with the three unions — International Brotherhood of Electrical Workers, Amalgamated Transit Union, and International Association of Machinists — who represent approximately 35 percent of the SCE&G working force. Figure 2 shows the present educational status of SCE&G employees as well as the relative percentages of union and nonunion, male and female, and supervisory and nonsupervisory personnel.

South Carolina Electric & Gas Company believes that a policy of equal employment opportunity without regard to race, color, religion, sex, or national origin is not only morally and legally proper, but also good business. The company's objective in Affirmative Action is to cause greater numbers of qualified minority group members and women to seek employment or advancement. In this way, the normal workings of a nondiscriminatory selection procedure will increase the number of

such persons being hired for, and advanced to, all positions in the company.

EMPLOYEE BENEFITS

SCE&G makes every effort to demonstrate interest in, and concern for, the well-being of its employees through a comprehensive benefits program and good working conditions. Members of the Personnel Department continually monitor the company's employee benefits program to make sure that employees enjoy the very best program possible. Every employee is given both the **Employee Handbook** which contains full details of current benefits, and periodic inserts which update the original publication.

Reports from a cross section of U.S. businesses indicate that employee benefits vary from less than 18 percent to over 60 percent of total straight time payroll. At SCE&G, the figure is 35 percent.

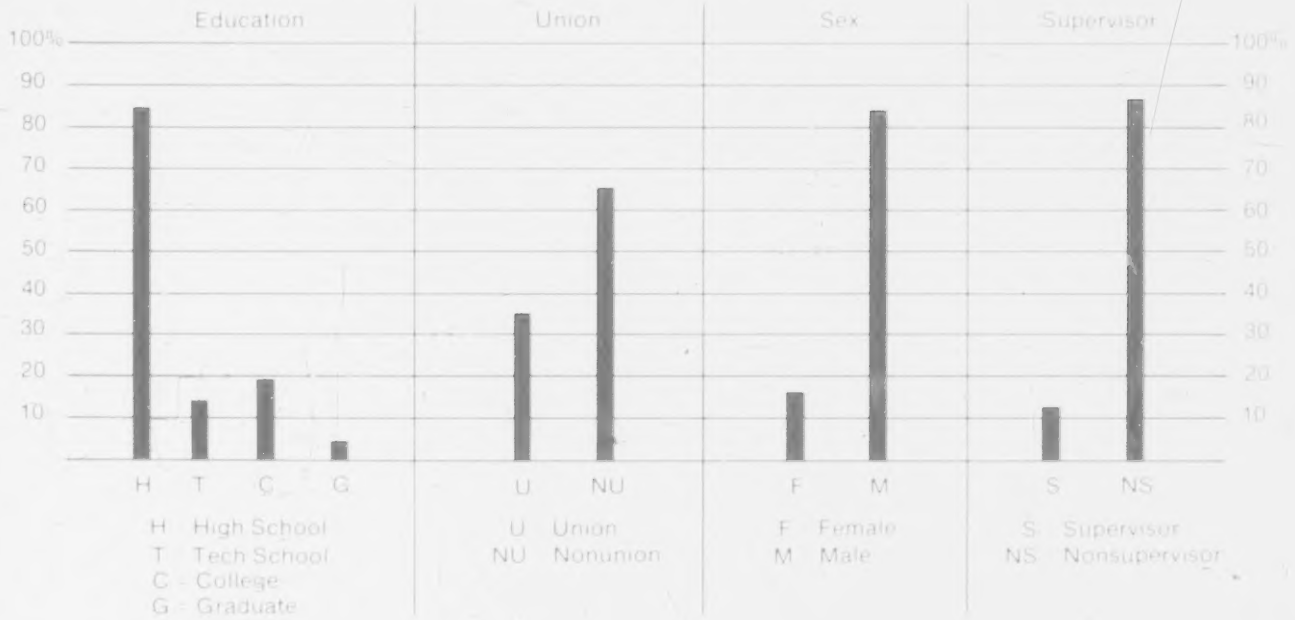
A complete listing and description of all SCE&G employee benefits would require more space than this article allows. However, some of the more important ones are described in the following paragraphs.

Stock Purchase-Savings Program

The Employee Stock Purchase-Savings Program began in 1964. This program provides systematic savings, with the added incentive of company contributions, through the convenience of payroll deductions. At the same time, it affords an excellent opportunity for, and a convenient method of, acquiring stock in the company. Basic savings can be 2, 4, or 6 percent of gross earnings, and the company will contribute 50¢ for every $1 invested by the employee. Even though the company does not contribute to additional savings, employees may save another 2 or 4 percent. Employees may elect to have their savings invested in common stock of the company or in U.S. Government Bonds. The company's contribution is invested in SCE&G common stock.

Any company employee who is at least 18 years of age is eligible to join the Stock Purchase-Savings Program. It features a choice of two plans: (1) the Savings Fund Plan, or (2) the Retirement Thrift Plan. If an employee chooses the Savings Fund Plan, his savings will be deducted for one year (beginning July 1) and held in trust for two years. All dividends during this period will go toward the purchase of additional common stock and will be reinvested in his account. At the end of two years, he will receive the proceeds, either common stock or bonds. With the Retirement Thrift Plan, the employee's savings, the company's contribution, and earnings thereon are invested in the same way as in the Savings Fund Plan. However, under the Retirement Thrift Plan, the employee will receive

FIGURE 2: Profile of SCE&G Work Force



the proceeds when he retires. At the present time, approximately 74 percent of eligible employees are participating in the Stock Purchase-Savings Program.

Employee Stock Ownership Plan (ESOP)

Several years ago, Congress enacted a law that gives SCE&G the opportunity to place its common stock into a trust as a benefit to employees, and to deduct this cost from Federal taxes. Shares of stock are allocated to employees, free of cost, based on their earnings during the year. The employees become eligible during the plan after completing three years of service.

The stock must be held by the trustee for seven years, but it will be distributed to the employee after the seven years or upon his retirement or termination. Earnings to the trust go first to pay administrative expenses. The remainder is invested in additional common stock of the company and allocated proportionately to the employees' accounts.

SCE&G hopes this program (in no way connected with the Stock Savings Program) of direct employee ownership in the company will encourage employee loyalty and interest in efficient operations. Of course, each year the continuation of this program depends on the tax laws in existence.

As a participant in ESOP, employees are also eligible for an optional plan benefit made available to the company by the Tax Reform Act of 1976. This Matching Contribution Provision allows employees to acquire additional stock by matching the amount the company allocates to them under this option based on their annual salary. For every $1 they invest, the company also contributes $1.

Females, like attorney Patricia Marcotsis, represent 16 percent of SCE&G's work force. Marcotsis is responsible for keeping all departments within SCE&G notified of those Federal and state regulations that affect the company's activities. She also represents SCE&G in rate cases and other matters before the South Carolina Public Service Commission and the Federal Energy Regulatory Commission.

The Retirement Plan

The Retirement Plan is one of the most important employee benefits provided by SCE&G. With the exception of those hired after their 64th birthday, all employees of the company are automatically covered under this plan on the first anniversary of their employment. The Retirement Plan offers employees opportunities to build up extra retirement benefits if they wish to do so by making contributions. The **Employee Handbook** provides additional details.

Long-Term Disability

This plan provides employees with a monthly benefit payment if they become permanently disabled and are unable to perform their regular duties with the company. The amount of the monthly payment is based on a set of conditions outlined in the **Employee Handbook.** This plan replaces any long-term disability benefits formerly provided by the company's Group Health Insurance Plan and the company's Plan for Retirement Annuities.

Group Insurance and Health Care Plan

The Group Insurance and Health Care Plan provides an excellent program for protection and security against the cost of injury and illness. SCE&G pays the entire cost of the employee's group insurance and health care plan. For the employee to have his dependents covered by the group health care plan, the company can deduct a

SCE&G's retirement plan is one of the most important benefits provided by the company. Ralph Epting, former Control Room Operator at McMeekin Station (a coal-fired generating plant), recently retired with 37 years of service. Epting began his career with SCE&G as a utility man at Parr Generating Station.

sum of money from his pay in equal amounts twice a month.

SCE&G insures the employee for group life benefits and accidental death benefits. If death is due to normal circumstances, his benefit will amount to twice his annual salary, rounded to the next lower multiple of $1,000, to a maximum of $160,000. If death is due to accidental means, his benefit will be twice that of the group life insurance, to a maximum of $320,000.

Recreational Activities

The company realizes that rest, relaxation, and recreational activity are essential to the mental and physical well-being of all employees. It therefore provides recreational facilities at the Sand Dunes Club in Charleston and the Pine Island Club in Columbia.

The Sand Dunes Club is located on Sullivans Island near the entrance to picturesque Charleston Harbor and within sight of historic Fort Sumter. A ballroom, snack bar, dining room, and kitchen are available in the clubhouse. A swimming pool is provided, and the Atlantic Ocean with beach, surf, and sun lies just beyond the dunes, a few steps away.

The Pine Island Club is located in a beautiful setting on Lake Murray. The island facilities include a clubhouse with a snack bar, ballroom, TV room, kitchen and dining room, a swimming pool, picnic shelters, boat docks, boat launching ramps, tennis courts, a fishing dock, and playing fields.

Each of the employee-club organizations operate the facilities and plan events throughout the year for their members, including dances, fishing tournaments, ladies night, and children's day. All regular, full-time employees are eligible for membership in the Pine Island Club or the Sand Dunes Club. The dues and initiation fee are nominal.

SCE&G also sponsors such other activities as bowling, softball, and YMCA memberships. Since healthy employees are generally more productive employees, the company strives to maintain policies that will promote and insure the good physical condition of its employees. An added benefit of recreational activities is that the employee will meet other employees on an informal basis which should help make work relationships stronger and more meaningful.

Education Course Sponsorship

The company believes that education is an important and continuing process. Employees who wish to further their education at universities or tech schools or through correspondence courses may qualify for financial assistance by the company.

SCE&G will pay all or part of the tuition cost if

1. the applicant is a full-time regular employee who plans to continue employment,
2. the course is job-related,
3. the employee makes a grade of "C" or better in the course, and
4. the course does not interfere with the performance of the employee's job.

The company will give a salary advance to pay for the course, or the employee may pay for the course and be reimbursed upon successful completion of the course.

Pine Island Club, SCE&G's recreational facility at Lake Murray, offers a full schedule of activities for the families of nearly 1,300 employees and retirees. Here, employee Bobby Justus lends a helping hand in the sack races during children's day. Several hundred children attend this annual picnic for a day of fun and games.

Company News

A well-informed employee is a better employee. In order to keep abreast of news regarding the company, fellow employees, and items of interest that affect the utility industry, SCE&G regularly communicates with employees. It mails its newspaper LIVEWIRES to the homes of all employees and retirees every two weeks. LIVEWIRES is published by the Corporate Communications Department with the assistance of volunteer reporters throughout the service area.

In addition to reading LIVEWIRES, employees can keep abreast of all current information regarding SCE&G by perusing the numerous bulletin boards located throughout the company, and by dialing "3101." The company provides this latter "news update service" through a prerecorded message format that enables employees to pick up current information in a few minutes time that should be of interest to all.

On occasion, SCE&G provides employees with the opportunity to attend scheduled employee communications programs. These are normally conducted during working hours. Management chooses programs that should help employees become better informed about the company and current events affecting the company or the utility industry. These programs give employees an opportunity to enter into the discussions and to ask questions on matters related to the company or other subject matter.

Suggestion Program

SCE&G's Suggestion Program provides employees the opportunity to offer ideas and suggestions on ways the company can save money, improve service, increase efficiency, reduce accidents, and increase employee and public understanding through better communications. Employees receive cash awards for ideas and suggestions that are accepted and placed into effect. Cash awards are based on 10 percent of the tangible savings occurring during the first year and 5 percent of the savings during the second year. Employees may also receive a cash award ranging from a minimum of $10 to a maximum of $100 for suggestions that contribute significantly toward increasing employee and public understanding and providing feedback between company employees and the public.

Christmas Gifts

Each Christmas, as a token of appreciation for a job well done, SCE&G gives Christmas gifts to all employees who are classified as permanent, full-time employees as of December 25. SCE&G gives each eligible employee a catalogue filled with household items, sporting equipment, small appliances, and gardening tools. From this catalogue the employee selects a gift or gifts having a total value of approximately $25. Orders are taken around October and the gifts arrive for distribution in mid-December.

Other Benefits

SCE&G also provides other important employee benefits. These include nine paid holidays each year, vacations and sick leave based on number of years of service, time off for jury duty, a credit union for employee savings and loans, and an equitable employee relocation plan.

CONCLUSIONS

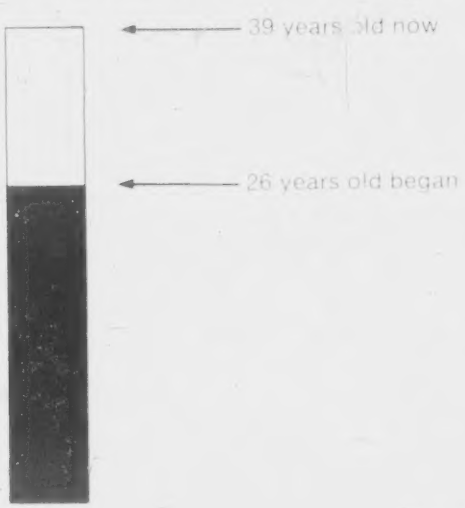
To get an objective evaluation of employee reaction to policies and working conditions, SCE&G recently hired a firm from Iowa to conduct a survey among company employees. Since the firm had performed surveys for numerous other utilities, it had sufficient data to make meaningful comparisons.

Overall, the results of the survey were encouraging. Management was particularly pleased with the responses to employee benefits. Specific results are shown below.

FIGURE 3: Profile of SCE&G Employees by Years of Service

(*) Average Employee
— 39 years old
— 13 years service

FIGURE 4: The Typical SCE&G Employee



Length of Service
Average Employee
SCE&G - 1980

Say the company does "good" and "satisfactory" on:

Hospital health	71
Recreational facilities	74
Vacation policy	78
Retirement or pension plan	87
Providing information to employees on benefits	85
Company life insurance	91
Stock purchase plan	99

From the results it is clear that the stock purchase plan is the most popular and well-supported benefit the company offers.

One of the factors emphasizing the belief held by employees that SCE&G is a good place to work is the number of second-generation employees. Such a practice helps generate company loyalty and implies a satisfaction with benefits and working conditions.

Figure 3 is a graphic picture of all current SCE&G employees and their years of service. The two peaks shown at 26 and 32 years of service represent approximately 60 employees each. They obviously began work with SCE&G shortly after the Korean War and World War II and stayed.

Another way of viewing the typical SCE&G employee is shown in Figure 4. As this graph indicates, the average employee today is 39 years old, began work at the company at the age of 26, and now has 13 years of service.

Numerous factors affect turnover in work force. Some of these are nonchallenging jobs, keen competition for employees, monotony, and low compensation. However, SCE&G firmly believes that its good benefits program and working conditions are largely responsible for its low turnover. In a time when utilities and its employees are on the highly visible cutting edge of an unrelenting inflationary cycle not of their own making, low employee turnover is very indicative of a successful employee benefits program.

The South Carolina Department of Agriculture: 100 Years of Service to the People

By Bryan Patrick

PURPOSE, PERSONNEL, PRODUCTION

A housewife purchasing a three-pound package of hamburger at her favorite supermarket . . .

A businessman filling his automobile with gasoline at a self-service gas station . . .

A youngster seeking to sell some of his surplus rabbits . . .

A farmer with a new litter of pigs to sell . . .

A commercial cucumber grower in the lower part of the state . . .

A peach producer in the Piedmont . . .

A retired millworker who now tends a backyard flower garden . . .

What do all of these people, and thousands more like them throughout South Carolina, have in common? They are typical of persons in all walks of life in all sections of the state whose daily lives are affected by the services of the South Carolina Department of Agriculture.

Bryan Patrick was appointed to serve as South Carolina's Commissioner of Agriculture in 1976 and was elected by the citizens of the state to serve a four-year term beginning in 1978. He is President of the Southern Association of State Departments of Agriculture, a farmer-businessman, and the leading spokesman for agriculture in South Carolina. Patrick is a graduate of The University of South Carolina. He is President of Emerald Lee Farms where he began his agricultural career upon graduation. His agricultural involvement now includes membership on the South Carolina Dairy Commission, the South Carolina Rail Services Advisory Commission, the Executive Committee of the Farm Bureau Dairy Division, the Board of Directors of the Southern Weights and Measures Association, the Interstate Pest Control Compact, the Water Resources Commission, the Tobacco Advisory Committee, the Agriculture Commission of South Carolina, and the Board of Directors of the National Association of State Departments of Agriculture.

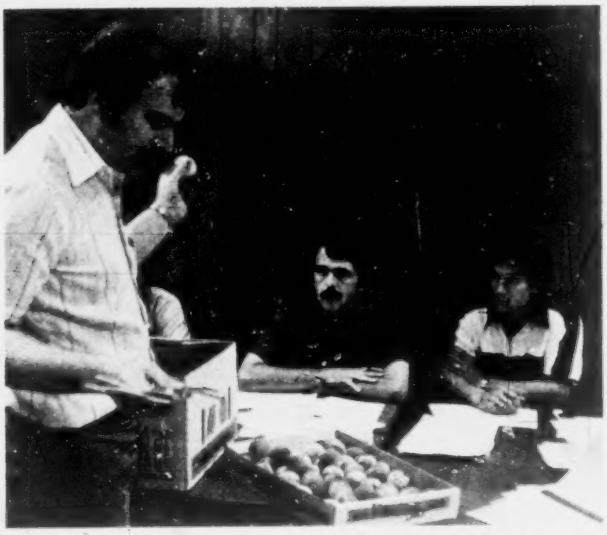
The personnel of the South Carolina Department of Agriculture have been devoting their services to the citizens of the Palmetto State for 100 years. This service-regulatory agency was begun in 1880 and reorganized in 1904. A labor department was added in 1909 to bring a name change to the Department of Agriculture, Commerce, and Industries. In 1936, labor and industrial activities were transferred, and in 1941, the final name change came with a switch to "South Carolina Department of Agriculture."

The Department of Agriculture is designed to serve both the city resident and the rural resident. Its sphere of service also extends to the consumer, the seller, the manufacturer, and the distributor of many products available in South Carolina.

Originally created to foster agriculture in the state, this agency was also charged by the General Assembly to enforce more than 30 statutes concerned with agriculture and consumers. Department officials believe that efforts in these fields have contributed soundly to the growth of agriculture and agri-business in South Carolina.

Activities of the South Carolina Department of Agriculture, however, are many and varied. They range from providing consumer protection in weights and measures and truth in packaging, to providing bonded storage for nonperishable agricultural products, to conducting such marketing programs as grading, inspection, and market news information on livestock, fruits, vegetables, peanuts, tobacco, grain, and poultry and poultry products. There's also laboratory testing of petroleum products, antifreeze, paints, hazardous substances, seeds, feeds, and fresh vegetables and meats. Assistance is furnished South Carolina farmers in developing both domestic and export markets.

The working force of the South Carolina Department of Agriculture includes 190 employees. Its main headquarters consists of part of the fifth floor and all of the sixth floor of the Wade Hampton State Office Building directly behind the



Fresh Fruits and Vegetables Inspector Robert W. Martin (left) explains the grading of South Carolina peaches to a class of peach inspectors.

State House, and the William L. Harrelson Laboratory on Williams Street near downtown Columbia. Out of these 2 locations, 94 persons work in administration, marketing, and the laboratory. In addition, there are 40 consumer protection specialists who live in various sections of the state, with some working out of the Columbia office. Inspection for both grain and poultry also requires about 20 employees each, and 10 specialists are involved in collecting market news information over South Carolina.

During fiscal year 1979-'80, the South Carolina Department of Agriculture deposited net receipts of $5.3 million to the General Fund of the state, as compared with an appropriated budget from the General Assembly of $3.9 million.

DIVISIONS

There are 4 divisions responsible for the agency's efficient daily operation. These are Administration, Laboratory, Marketing, and Consumer Services.

Administration Division

Serving as the heartbeat of the agency is the Office of the Commissioner. This office has, as its total goal, representing the farmer, the agribusinessman, and the consumer in local, state, and national matters. Either the Commissioner of Agriculture or his designated representative maintains a close liaison with local, state, and national agricultural associations, societies, and governmental agencies.

The Commissioner, by virtue of his office, is Chairman of the Agricultural Marketing Advisory Council. He is also an Ex-Officio Member of the Agriculture Commission of South Carolina, functioning as Secretary for the group. He is a member of the State Dairy Commission and State Administrator of the Pest Control Pact, which allows South Carolina to engage in a cooperative program of protection against serious dangers from pest infestation and reinfestation. Finally, he is responsible for the administration of the noxious aquatic weeds and plants law. By special directive of the Governor or the General Assembly, the Commissioner may institute or assist in studies, surveys, and or investigations of all matters pertaining to agriculture and allied economics.

Publication of the **South Carolina Market Bulletin,** a popular weekly listing of buy and sell farm items, is supervised by this office. Over 100,000 subscribers receive this listing. It is here that farmers sell an estimated $15 million worth of agricultural products and farm related items through notices published free of charge. Nearly 28,000 such notices were published during fiscal year 1979-'80.

In addition to furnishing staff assistance and financial support to the Agriculture Commission of South Carolina, the Administration Division also gives staff support and general supervision to the operating programs of the total department. As the financial arm of the agency, this division receives, accounts for, and deposits funds to, the general fund of the State and other funds. It provides accounting services for such funds as marketing order commodity boards. This division also maintains and supervises the department's limited fleet of automobiles, station wagons, and a van.

Auditors on assignment from the Administration Division audit petroleum shipping point records and collect inspection fees on petroleum products. This division also maintains the Warehouse System of the South Carolina Department of Agriculture. Under this system, farmers in South Carolina have the option of storing nonperishable agricultural products at the time of harvest, if market prices are not suitable to them, in 37 cotton warehouses and 64 grain compartments. These units are licensed and supervised, and each manager is bonded and responsible for the condition of the particular commodity stored.

Field examiners from the Administration Division inspect conditions of the buildings and

Commodity Marketing Specialist Sam Glover (left) talks in a soybean field with a representative of a lower state farmer cooperative organization.

grounds and audit managers' records of each warehouse at least once every 90 days. Stored commodities are covered by fire insurance for full market value, with extended coverage against hail, windstorm, burglary, and theft. Those stored commodities include such agricultural products as cotton, corn, soybeans, and other grains under the Federal Government loan program. Receipts are issued for the stored commodities which may be used as collateral under the Federal Government loan program or with local lending institutions for securing loans.

In fiscal year 1979-'80, the warehouse system of the South Carolina Department of Agriculture accounted for $413.6 million in value of grain stored. Leading commodities included soybeans, corn, wheat, oats, rye, and peanuts. The value of cotton bales stored during the same period was $114.3 million on a total of 350,150 bales.

Computer operators for the agency are coordinated by the Administration Division, as are printing and mailing room services. Another responsibility of this division is to maintain various financial records and to send out license applications to seed dealers.

The South Carolina Seed Law requires each person selling or offering for sale seed mentioned in the law to be registered and licensed by the South Carolina Department of Agriculture. The license fee is based on the amount of gross sales for the applicant, ranging from just $1 for only boxed, packaged vegetable and flower seeds up to $25 for gross sales of $1,000 or more.

Persons who buy bulk commodities are protected under the 1967 Public Weighmasters Law which is enforced by the South Carolina Department of Agriculture. This statute assures correct weight, measure, or count for the bulk commodity. Businesses dealing in buying and selling bulk commodities must employ a licensed and bonded public weighmaster or deputy weighmaster. At present there are 717 licensed weighmasters and 2,882 licensed deputy weighmasters in South Carolina.

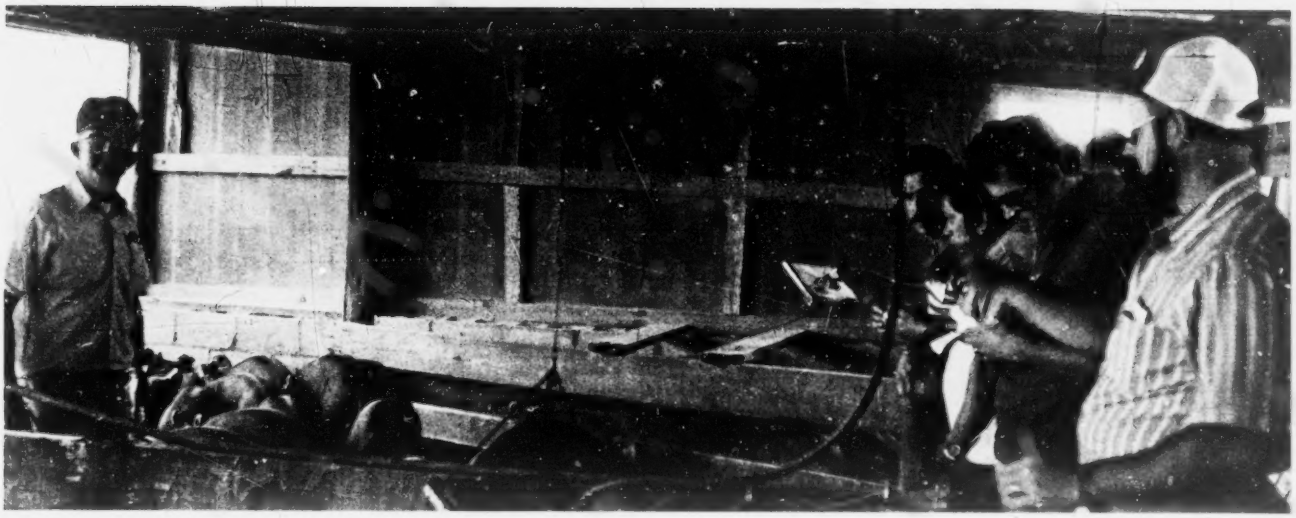
The Administration Division is also involved in licensing and bonding those persons who buy agricultural products from producers and pay for the products by check. This bond is determined by finding the company's or individual's month of largest purchases. Licensed and bonded dealers totaled 524 during the 1979-'80 fiscal year.

Laboratory Division

At the South Carolina Department of Agriculture science plays a big role, too. A skilled team of chemists, technologists, technicians, analysts, inspectors, and secretaries enable that agency's Laboratory Division to do the analytical work and furnish the technical expertise for 14 of the laws the SCDA enforces. Each year these specialists analyze 48,000 samples for the department and for individuals upon request. Headquarters for this unit is a 32,000 square foot structure at 1101 Williams Street.

Laws or regulations require official samples to be taken of various materials. These include petroleum products; vitamin enriched foods; commercial feedstuffs, including drugs and medicants as added; pesticide residues on foods and feeds; meats; and ice cream and related products.

In the seed section, tests are made on seeds for germination and purity, both for individuals as a service arm of the agency and on official samples drawn by department consumer protection specialists. Feeds, condimental feedstuffs, gasolines with brand names and octane ratings, ice creams, ice milk, and frozen desserts are registered. Licenses are issued for manufacturers of ice cream, ice milk, frozen desserts, and similar products, and to butterfat testers and samplers and weighers.



International Marketing Specialist Roy W. Copelan, Jr. (right) and a group of Costa Rican hog buyers listen as Darlington hog farmer H. L. Beck (left) explains his offerings.

Labeling is reviewed and approved on condimental feedstuffs, feeds, and frozen desserts, foods, etc.

Involvement in petroleum products testing dates back to the early history of the South Carolina Department of Agriculture when farmers first became mass users of these products. Today such nonagricultural products as gasoline, kerosene, diesel fuel, and heating fuel are checked for safety, purity of product, and set standards. Tests undertaken include water and other impurities, specific gravity, distillation, research octane number, flash point, lead content, gum, corrosion, sulfur content, and vapor pressure. According to Laboratory Director Truluck Kelly, over 25,000 tests designed to benefit both the consumer and the distributor of the product are made annually on nearly 5,000 official samples.

Everyone, consumer and producer alike, has an interest in foods. So do the personnel of the Laboratory Division. They will perform nearly 164,000 analyses on over 10,000 food samples, drawn mainly by consumer protection specialists, each year. Foods such as raw fruits and vegetables, frozen desserts, producer milk, ground meats, enriched foods, canned goods, sugar, honey, syrup, grains, and other miscellaneous products are tested for pesticide residues, bacteria, filth, vitamins, minerals, aflatoxins, heavy metals, nutritional analyses, conformity to standards, labeled guarantees, and adulteration and misrepresentation. Additional food and cosmetic inspections are made of manufacturers, warehouses, storage facilities, salvage operations, etc.

"There is no practical way a consumer or a businessman can perform these tests on foods," says Lab Director Kelly. "It's just an effort on the part of state government to furnish them assurance in the quality of foods they buy and use."

Livestock and pets number in the thousands in South Carolina. They consume thousands of dollars worth of feed grains for their food, much of which is grown in South Carolina and processed elsewhere.

All commercial feeds and pet food sold in South Carolina are registered by the Registration Office of the South Carolina Department of Agriculture's Laboratory Division. Over 1,200 samples, officially drawn by consumer protection specialists each year, are analyzed for nutrition, minerals, and vitamins, and are subject to microscopic examinations and medication assays.

"Numerous consumer benefits are reaped by this testing on both livestock and pet foods," says Kelly. "Consumers are assured that the feed they purchase meets the label guarantee and, in the case of medicated feed, that the correct amount named on the label is actually contained in the feed."

Much of what takes place in agriculture begins with good seed. It is the aim of the Seed Section of the Laboratory Division to see that good seed are available for sale throughout the state. Over 29,000 seed samples, which include official and certification samples, are tested annually for both farmers and individuals. These seed are tested for variety, identification, weeds and noxious weeds, inert matter, and other crop seed to assure germination and purity. All seed offered for sale in South Carolina must be tested every nine months.

With South Carolina moving in vehicles that require antifreeze in winter and coolants in summer, each brand of these types of products sold in the state must be registered and tested. Nearly 550 tests are performed by the Department of Agriculture's Laboratory Division on over 70 brands of antifreeze and coolants each year. Additional registrations and licensings are handled for feeds, frozen desserts, butterfat testers, and milk samplers who work with commercial dairies in South Carolina.

Marketing Division

The Marketing Division offers a multipurpose program to benefit all segments of agriculture with marketing and economic considerations. A state can produce the finest agricultural products in the world, but if its farmers and livestock producers can't sell these products, then their efforts are worthless. The world is this state's agricultural market, and the SCDA is attempting to assist South Carolina farmers in realizing their potential.

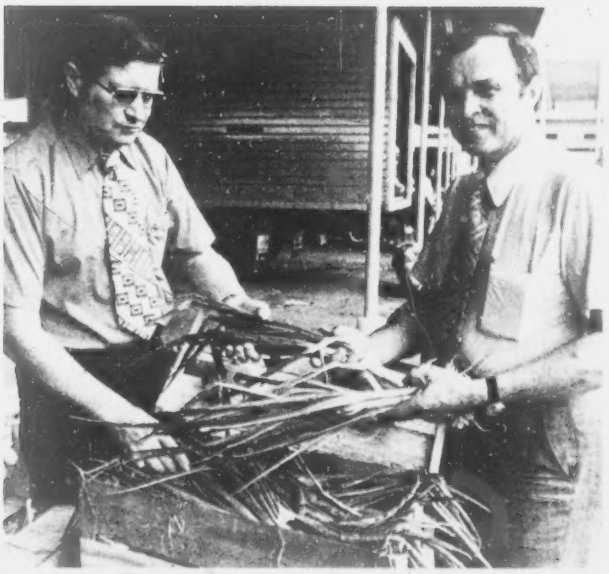
There are many phases in the marketing of South Carolina farm products. In no specific order, they include promotion and publicity to facilitate statewide understanding between farmers and consumers. Radio and television programs of a public service nature are used to promote crops and produce in season. Daily and weekly newspapers carry food columns and news stories spotlighting the versatility and nutritional value of South Carolina grown food products.

Direct promotions are undertaken at shopping centers and malls, while organizational and promotional groups are rendered assistance. Promotional activities of commodity groups also are assisted.

There are organized commodity groups in South Carolina for soybeans, pork, cucumbers, sweet potatoes, peanuts, and eggs. The Marketing Division of the South Carolina Department of Agriculture assists with these programs, and helps in the conducting of referendums and the nominating, appointing, and electing of board members.

Space does not permit full treatment of all the responsibilities of the Marketing Division. In addition to the above, a multitude of other marketing services are available. A number of these are discussed briefly below.

Certificates for conformity or nonconformity to U.S. and other grade standards are vital to the agricultural economy of South Carolina. Often-



Marketing Division Director Bob Rogers (left) and Commissioner of Agriculture Bryan Patrick look over some spring onions at the Columbia State Farmers Market.

times, these certificates furnish the necessary evidence for the settlement of disputes between buyers and sellers.

The South Carolina Department of Agriculture, in cooperation with the U.S. Department of Agriculture's Food Safety and Quality Service Division, makes available upon request a grading service to aid growers, shippers, brokers, receivers, processors, and others in the packing and marketing of their products. Fees from the applicants make the service generally self-supporting. Commodities inspected include apples, cabbage, green corn, cucumbers, nectarines, peaches, peanuts, sweet peppers, tomatoes, and watermelons.

This grading service includes both shipping point inspection, which takes place at the packing house and in the field, and market inspection, which is available at the Columbia State Farmers Market and also in Greenville and Charleston, South Carolina, and Augusta, Georgia. They are made available for poultry, shell eggs, and egg products by South Carolina Department of Agriculture employees licensed by the U.S. Department of Agriculture in compliance with the latter agency's Food Safety and Quality Service.

These inspections meet requirements for those graded products shipped throughout the United States and for those exported to foreign countries. Products are checked to meet specifications required by the military, by USDA school lunch programs, and by chain stores.

Mrs. Peggie Davis discusses formation of a Co-op Food Buying Group with interested persons in a meeting at the Columbia State Farmers Market.

Another function of the SCDA's Marketing Division involves grain, a mainstay of the world's total supply of both human and animal feed. Congress has provided official United States standards for grain in an effort to promote uniform application of standards by official inspection personnel, to make possible an official inspection system for grain, and to regulate the weighing and certifying of weight of grain shipped in interstate and foreign commerce. The South Carolina Department of Agriculture, under delegated authority from the Federal Grain Inspection Service of the USDA, performs these services for the state of South Carolina.

Grading services also extend into the livestock field, with representatives of the Livestock Market News and Grading unit working with feeder pigs and slaughter hogs. User fees, charges, and contract agreements are used to finance these activities.

To keep in step with the fast-paced world of agricultural export marketing is another objective of the Marketing Division of the South Carolina Department of Agriculture. Nearly one-third of South Carolina's agricultural products are eventually exported to foreign markets. This means that agricultural exports enriched the state's economy by more than $367 million during fiscal year 1979-'80.

International trade specialists for the South Carolina Department of Agriculture assist both individuals and firms in negotiating overseas contacts and sales. Through cooperation with the Foreign Agricultural Service of the U.S. Department of Agriculture, the international trade program of the South Carolina Department of Agriculture offers firms in South Carolina the chance to be listed with the Trade Opportunity Referral System (TORS), a computerized program that furnishes regular trade leads to participating firms. Constant communication is maintained with foreign food and agricultural product buyers.

The South Carolina Department of Agriculture helps state firms participate in trade shows, food fairs, and food exhibits, and assists in acquainting buyers with sellers. This division also develops and maintains other export activity through association with various international marketing organizations. One of these is the Southern United States Trade Association (SUSTA), a regional export group. Another is the multistate Atlantic International Marketing Association (AIM). When more advantageous, however, South Carolina acts independently of these organizations.

Working with the Southeastern Livestock Export Association, which it helped to organize, the South Carolina Department of Agriculture has been successful in selling purebred cattle and swine to Central and South America. Livestock agents have been appointed in three Central American markets to serve as South Carolina's communication link with livestock buyers in their respective countries.

Foreign buyers from Japan, Costa Rica, the United Kingdom, Taiwan, Guatemala, Venezuela, and Colombia have been taken on tours of South Carolina to enable South Carolina farmers and agri-businessmen to demonstrate their operations and to discuss international business.

The International Trade Program of the South Carolina Department of Agriculture has also branched out into the areas of seafood products, forestry products, and agri-business equipment and machinery. Direct benefits of exporting, in addition to commercial purchases made by visiting buyers, include such expenditures as motel rooms, meals, and transportation.

The Marketing Division helps the Department of Agriculture maintain a close working relationship with the South Carolina State Ports Authority, the U.S. Department of Commerce, the State Development Board, the South Carolina International Trade Conference, the Coastal Plains Regional Commission, and the Midlands Trade Club. This cooperation fosters the development of export activities for South Carolina agriculture.

Under the marketing umbrella of developing, operating, and offering expert advice to existing markets, the South Carolina Department of Agriculture maintains year-round, full-time State Farmers Markets in both Columbia and Greenville. Located just across from Williams-Brice Stadium, the Columbia State Farmers Market is the hub of agricultural marketing for both the state of South Carolina and portions of the Eastern Seaboard. A long-time operation in the capital city, this facility came under the direction of the SCDA after passage by the General Assembly in 1975 of an act that abolished the Marketing Commission and transferred its duties to the South Carolina Department of Agriculture. Sales at this facility the past 28 years have amounted to $891,128,779 in cash receipts for agricultural products. South Carolina grown fruits and vegetables have accounted for $166,495,288 of this amount.

The Columbia market includes units for wholesalers, dealers, and farmers. Recent improvements have included several more openside sheds next to wholesale warehouses, new roofs on existing warehouses, and the rebuilding of a burned out wholesale fresh fruits and vegetables operation.

Produce is on sale all year. Various promotional ventures are held to focus consumer attention on the market, but South Carolina producers enjoy their peak months in May, June, and July, on such items as peaches, tomatoes, and watermelons.

Commissioner Patrick talks tobacco with Marion County tobacco farmer Jim Huggins.

The newest member of the marketing family is the Greenville State Farmers Market which joined the fold November 30, 1979, after the Greenville County Council relinquished control to the State. This addition represents the first step toward a network of markets located in prime production regions of South Carolina.

With a rich history of more than 30 years of service to agricultural marketing, the Greenville State Farmers Market offers wholesale units, retail facilities, a poultry distribution warehouse, and open parking stalls.

Small producers of high quality produce are abundant throughout the Greenville area which furnishes an excellent growth potential. Consumers are becoming more and more aware of that market's offerings.

Counseling by the Marketing Division is made available to marketing authorities in Blackville, Pageland, and Long Creek, among others. Further

Billy Kennington of the Consumer Protection Division looks over a portable fat testing unit that is used to test the fat content of hamburger on location in grocery stores.

aid is given by way of cooperation and technical help to planners and development entities and to those people conducting feasibility studies for potential market locations.

Personnel of the Livestock Market News and Grading Service of the South Carolina Department of Agriculture employ all types of media to distribute daily price information on key markets in the Palmetto State and the nation. Local television and radio stations broadcast daily information on up-to-date local and national prices. A number of weekly and daily newspapers over the state carry information on prices of livestock through the cooperation of both the Associated Press and United Press International. There is also a daily automatic answering device in the department's main office.

In cooperation with the U.S. Department of Agriculture, the SCDA is able to provide producers, distributors, and consumers with the latest in marketing information on fruits, vegetables, grain, eggs, and poultry. Distribution of these data is accomplished through both the print and the broadcast media.

The Marketing Division publishes a printed **Market News Report** Tuesdays, Thursdays, and Fridays. This publication contains information from wholesale warehouses and farmers stalls at the Columbia State Farmers Market, state and area grain and poultry prices, and the New York Egg Market.

In-season reports are published daily during cucumber, tomato, apple, peach, and watermelon harvesting times in South Carolina. Price data on these commodities also are provided on telephone recorders at Charleston and Beaufort. An annual summary of wholesale fruit and vegetable marketing information from the Columbia State Farmers Market is compiled and published. Additional annual summaries are published on South Carolina commercial cucumber, tomato, peach, and watermelon crops.

Over 30 points in South Carolina provide price information for the **Grain Market News** which also includes the Chicago Grain Futures from the U.S. Department of Agriculture plus other sites as needed. A teletype machine, which is part of the U.S. Department of Agriculture's Nationwide Leased Wire System, helps transmit daily marketing information.

With tobacco ranking as a $200 million crop for South Carolina farmers, the South Carolina Department of Agriculture works closely with both farmers and the tobacco industry for the improvement of this commodity. Daily tobacco price information is given through a Market News Service office in the heart of the tobacco producing area. Promotional efforts on behalf of the crop are supported and export efforts backed.

South Carolina's horse industry has been brought into the forefront through promotional efforts of the South Carolina Department of Agriculture in cooperation with Clemson University and the South Carolina Crop and Livestock Reporting Service. Cooperation is furnished the South Carolina Horse Council which backs unity and promotional efforts of the horse industry in this state.

Keeping tab on insect problems both in South Carolina and the rest of the nation is another function of the South Carolina Department of Agriculture. Its staff entomologist furnishes information on insect problems, pesticide usage, legislation, and research results to farmers and consumers.

A.V. Lee of the Consumer Protection Division pumps gasoline from a service station into a calibrated container.

Consumer Services Division

Thanks to the performance success of the Consumer Services Division of the SCDA, not many consumers have to carry with them a set of weights for checking scales when they make purchases or calibrated containers to determine the accuracy of the gasoline pump at their favorite service stations. A group of proven performers serve the public by handling assignments as diverse as candling eggs to checking weight sheets of tobacco. Basically, they furnish consumers with protective services that would not be easily available to them as individuals.

Consumer protection specialists operate in all areas of South Carolina. Specialists who live in areas other than Columbia work out of their homes on routes assigned by the Division Director. The efforts of those involved in consumer services have a three-pronged effect. They benefit not only the consumer, but also the manufacturer and the distributor of the product.

Specialists normally work each business firm from two to four times annually, with the exception of those that receive more business traffic. These facilities are inspected up to six times annually.

Each of the specialists has at least one primary area of activity, and most of them are skilled at several functions. Those who inspect supermarkets for package weights and scale accuracy, for example, also inspect petroleum pumps and sample products from both sources.

Routine samples are requested by the Analytical Laboratory as a means of enforcing the regulator control provisions of laws assigned to the South Carolina Department of Agriculture. Consumer complaints may require the drawing of special samples.

In business establishments, specialists check all weighing and measuring equipment for accuracy. They also check prepackaged items to be sure that the actual weight is that recorded on the label. They check a collective total of over one-half million packages annually.

Scales tested include spring, computing large capacity, heavy duty, livestock, monorail, hopper and batching, cotton, and tobacco. Pumps for gasoline, diesel, and kerosene are checked, and special inspections are performed on fuel oil meters and LP gas meters.

Under an agreement with the U.S. Department of Agriculture, egg regulatory work is handled by specialists from the Consumer Services Division. Close contact is maintained with producer packers on egg quality control. Eggs also are checked in regular retail outlets.

SUMMARY

The South Carolina Department of Agriculture is many things to many persons in all walks of life in this state. It is first and foremost, however, an agency dedicated to serving and protecting public trust.

The Employer and Employment Laws

By James J. Baldwin, LL.D.

The Employer and Employment Laws is a regular feature. Suggestions and inquiries by readers are invited.

UNIONIZATION WITHOUT ELECTIONS: THE NLRB EXPANDS ITS USE OF THE BARGAINING ORDER

Many employers think the only way they can become unionized is for a majority of their employees to vote for a union in an election conducted by the National Labor Relations Board (NLRB). There are, however, ways an employer can acquire a legal duty to bargain with a union without the union's having won an NLRB election among his employees. One of these occurs when an employer voluntarily "recognizes" a union once it demonstrates that it is supported by a majority of his employees. The other method involves so-called "bargaining orders" issued by the NLRB. The use of such bargaining orders by the NLRB was approved by the United States Supreme Court in 1969.[1] Since then, the NLRB has greatly expanded its use of this doctrine as a means of imposing a duty to bargain upon employers whose employees have not voted in favor of a union.

A hypothetical situation may help to illustrate how the NLRB uses its bargaining order device. Assume that a union gets a majority of employees in a plant to sign "union cards" and then petitions the NLRB for an election. During the pre-election campaign, the plant manager threatens that if the union is voted in, the plant will close. In addition, plant supervisors threaten union supporters with the loss of their jobs, and eight employees on the union's in-plant organizing committee are discharged, although none have had any prior disciplinary warnings. The union then files unfair labor practice charges with the NLRB and refuses to proceed with the election. The NLRB cancels the election, conducts a hearing, finds that the employer is guilty of all of these serious unfair labor practices and issues a bargaining order against the employer. Thus, the employer now has a duty to bargain with the union, even though the union has never won an election among his employees. The NLRB's theory in ordering the employer to bargain without an election is that his pre-election unfair labor practices were so serious, and have so effectively undermined the support the union had, that no fair election can be held.

Until recently, the Federal courts had required the NLRB to demonstrate first that a union was supported by a majority of employees before any bargaining order could be issued because of the employer's unfair labor practices.[2] However, in a recent case decided by the United States Court of Appeals in Philadelphia, **United Dairy Farmers Cooperative Assoc. v. NLRB**, the court held that in certain circumstances, the NLRB can issue a bargaining order without the union's having to present evidence of majority support, i.e., that an employer found guilty of "outrageous and pervasive" unfair labor practices can be ordered to bargain with a union notwithstanding the lack of majority support. In this case, United Dairy operated a milk processing plant in Pennsylvania. When the Teamsters Union sought to organize United Dairy's drivers, they rejected the union by a vote of 11 to 12 in a secret ballot election. The union then complained that United Dairy had interfered unfairly with the election by committing a number of unfair labor practices. An NLRB

[1] NLRB v. Gissel Packing Co., 395 U.S. 575 (1969).

[2] In the **Gissel** case, however, the Supreme Court suggested that a majority might not be required in all bargaining order cases.

F.2d ___ (3rd Cir. 1980).

James J. Baldwin is a partner in the law firm of Haynsworth, Baldwin and Miles, which specializes in labor relations law. Baldwin is an authority on such matters as union-management relations, problems occurring under the Occupational Safety and Health Act, the Fair Labor Standards Act, and legal questions arising under the various civil rights laws and regulations. In the field of labor law and civil rights law and regulations, he has won an eminent reputation.

Administrative Law Judge (ALJ) found United Dairy guilty of the alleged unfair practices, i.e., that United Dairy had unlawfully discharged seven employees, had threatened to close its operation should the union win, had distributed a cash bonus just prior to the election, had attempted to change the drivers from employees to independent contractors, and had threatened a number of employees. There was no evidence that the union ever had the support of a majority of the drivers, i.e., the union had never gotten a majority of drivers to sign union cards. Based on these findings, and instead of ordering a rerun election, the ALJ recommended that a bargaining order be issued against United Dairy.

The ALJ's decision was appealed to the full Board, and two members of the NLRB found that United Dairy's unfair labor practices were not sufficiently egregious to warrant the imposition of a bargaining order.[1] Another two members concluded that a bargaining order should be issued. The fifth member, John Penello, felt the NLRB lacked the legal authority to issue a bargaining order when the union, as in this case, had lost the election and had never obtained majority support from the employees. On appeal, however, the court held that the NLRB does have the authority to issue bargaining orders in such cases and remanded the case to the Board for a determination of whether it wished to exercise its authority in this case. Most observers feel that the NLRB will issue a bargaining order against United Dairy in this case. Given its present liberal makeup, the NLRB could then begin to use this case to impose unions on groups of employees, the majority of whom have indicated no desire to be represented by any union.

Most NLRB bargaining orders are issued concerning cases of alleged employer misconduct in which the union can demonstrate that it is supported by a majority of the employees. In another disturbing trend, however, the NLRB has begun to base too many of its bargaining orders in such cases on "minimal" unfair labor practices committed by the employer or his supervisors. Thus, in one recent case, the U.S. Court of Appeals in Chicago observed that the NLRB appears "to be automatically issuing bargaining orders on the basis of virtually **any** unfair labor practice . . . ."[2] The court, noting that the question of the union's representative status is best resolved by a secret ballot election, concluded that the unfair labor practices involved were not serious enough to warrant the NLRB's issuance of a bargaining order. Other courts have recently admonished the NLRB not to disenfranchise employees on the basis of minor employer unfair labor practices and without adequately explaining why a fair election cannot be held.[3] Nevertheless, the NLRB continues to issue bargaining orders based on unfair labor practices that are not sufficiently serious to warrant such a drastic remedy.

In summary, these two developments regarding bargaining orders should be of concern to all employers involved in union campaigns. If a union obtains a majority of employee signatures on union authorization cards, the employer runs the risk of having the NLRB issue a bargaining order based on relatively minor unfair labor practices committed by the employer's supervisors during the campaign. This greatly increases the importance of proper training for employers' frontline supervisors on how to campaign aggressively against the union without committing unfair labor practices. In light of the new **United Dairy** case, even where the union never obtains majority support, the employer still runs the risk of having the NLRB issue a bargaining order if he commits "outrageous and pervasive" unfair labor practices. The NLRB, of course, will decide exactly what conduct is "outrageous and pervasive." To compound the problem, employers usually have no way of knowing whether a union has majority support.

As a result of the NLRB's expanded use of bargaining orders, it can be expected that unions will file more unfair labor practice charges prior to and after NLRB elections. A union that expects to lose can file such charges prior to the election in hope that the NLRB will issue a bargaining order without an election. On the other hand, a union can delay filing its unfair labor practice charges against an employer until after it loses the election and hope for an NLRB bargaining order despite its loss. These developments make it more important than ever for employers to keep plant managers, as well as frontline supervisors, fully briefed on how to communicate effectively with their employees concerning unions without committing unfair labor practices.

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[1] **United Dairy Farmers Cooperative Association**, 282 NLRB No. 179 (1986). Member Truesdale and former Member Murphy. Former Member Murphy has been replaced by Don A. Zimmerman. Member Truesdale was reappointed to a temporary seat by President Carter.

Chairman Fanning and Member Jenkins

[2] **Red Oaks Nursing Home v. NLRB**, 633 F.2d 503 (7th Cir. 1980).

[3] **NLRB v. Jamaica Towing, Inc.**, 632 F.2d 208 (2nd Cir. 1980); **NLRB v. Appletree Chevrolet, Inc.**, 608 F.2d 988 (4th Cir. 1979).

Bottom Lines

By James B. Edwards, Ph.D., C.P.A., C.M.A., C.I.A., C.D.P.

Bottom Lines is a regular feature that brings attention to practical business, taxes and accounting. Suggestions and inquiries by readers are invited.

FEDERAL TAX LINES

Over a quarter of a century ago, Judge Learned Hand, who did more to interpret, unravel, and explain this country's complicated tax structure than any other judge in the United States, made the following statement in his dissenting opinion in Newman (35 AFTR 857):

> . . . if I understand the Commissioner, he wishes to consider that these deeds may have been a preliminary step in a reprehensible scheme to lessen . . . income taxes. There is not the faintest ground for imputing any such purpose to the parties at bar; and, if there were, it ought not to count. Over and over again courts have said that there is nothing sinister in so arranging one's affairs as to keep taxes as low as possible. Everybody does so, rich or poor; and all do right, for nobody owes any public duty to pay more than the law demands: taxes are enforced exactions, not voluntary contributions. To demand more in the name of morals is mere cant.

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LINE ONE

Usually a dependent has to live in your home for you to be able to take advantage of head-of-household status. There is an exception, though: your father or mother will qualify you if you provide more than half the cost of maintaining his or her separate household. Obviously, a household includes a parent's own residence, but what about a rest home? The Revenue Service and the courts now agree that this type of support (rest home or home for the aged) qualifies for the tax break.

LINE TWO

Whenever you claim a deduction you have to be able to back it up with proof. Even a theft loss is no exception. You must be able to show that the property was, in fact, stolen. The mere disappearance of money or property is not proof of theft. It may be just as reasonable to assume that you lost it. However, if the combination of circumstances shows that its more reasonable to conclude theft than some other cause, the deduction will be allowed. Always report thefts to the police.

Generally, the deduction is the lesser of the property's basis or its fair market value at the time of theft. If business or income-producing property is involved, the deduction is measured by the property's basis, even if fair market value is less. Any expense you incur in attempting to recover the property is generally a part of the theft loss. However, for personal theft losses, your deduction must first be reduced by $100. Remember, though, that the $100 reduction applies to **each theft**, not to **each item** stolen. Of course, you must reduce the loss by any insurance proceeds or other forms of recovery you receive.

Rev.Rul. 72-279, 1972-1 C.B. 1; **Robinson v. Comm.**, (9 Cir.), 28 AFTR 2d 71-5807, aff'g 54 T.C. 520.

LINE THREE

The government's recent retroactive adjustment in the flat-rate mileage allowance, from 18.5 cents to 20.0 cents per mile, can be used to give deserving employees better benefits at lower costs. You can apply the 20.0 cents per mile rate retroactively to January 1, 1980, for selected employees. Mileage reimbursements aren't wages. In contrast to wages, the mileage-rate reimbursement received by the employee isn't subject to Social Security or Federal unemployment taxes. Of course, the time, place, and business purpose of business travel must be accounted for if the reimbursement is to be deductible by your company and tax free to employees.

LINE FOUR

The Fourth Circuit U.S. Court of Appeals has held that a salesman who lived in McLean, Virginia, but whose sales activities were concentrated in and around the Philadelphia area could take a business expense deduction for expenses incurred in traveling to Philadelphia and staying overnight there. Philadelphia was not his "tax home." The court held that concentration of the taxpayer's business in one geographic area by itself was not sufficient to label that area the taxpayer's "tax home." He did not maintain an office, residence, or other means of doing business away from McLean where he prepared reports and did incidental paper work, so he was entitled to designate McLean as his home for tax purposes. Therefore, all expenses relating to travel on business away from McLean were deductible.

LINE FIVE

Section 1244 of the tax law provides a tax incentive to help you raise investment capital for your small corporation. If investors in 1244 stock hold it for over a year and sell at a profit, their gain is long-term capital gain as in any other stock sale. However, if the value of the stock goes down or becomes worthless, the loss is an ordinary loss fully deductible against ordinary income, a comparative advantage for the investor.

In order for you to qualify for Section 1244 treatment, your stock must be newly issued, for money or property other than securities; your corporation must have $1,000,000 or less in paid-in capital including amounts received for stock issued under the plan when the stock was issued; and the corporation must get a majority of its income from its business operations.

LINE SIX

New regulations that will dramatically revise most companies' withholding deposit requirements went into effect on January 1, 1981 [Reg. 31.6302 (c)-1]. Larger employers generally have to make more frequent deposits, while smaller employers may make less frequent ones. In general:

— large employers must make up to eight deposits of withheld income and social security taxes each month;

— medium-size employers must make monthly deposits; and

— small employers must make quarterly deposits.

You should check this regulation out right away to be sure that you are making the proper deposits on a timely basis. Space in this issue does not allow full coverage of this topic.

BEYOND THE BOTTOM LINE

You should check with your tax advisor on these and other tax considerations. It is no sin, and it could save you some tax money!

Daly v. Comm., 46 AFTR 2d 80-5851

Compliance with Executive Order 12086

By Angelo S. DeNisi

When Congress passed the Civil Rights Act of 1964, few reasonable men or women could help but admit that such legislation was needed. Although the Constitution and earlier legislation guaranteed all Americans equal treatment, one would not have had to search long to find instances in which someone's rights had been denied. Most employers would also admit that women and members of minority groups had been denied access to jobs, or at least to certain types of employment opportunities, so the creation of the Equal Employment Opportunity Commission to administer the act in

employment settings would seem to be a reasonable step, too.

The Federal Government traditionally has instituted programs aimed at social reform in the arena where the government has the greatest impact — the thousands of employers who can be defined as "Federal contractors," so the Executive Orders creating the Office of Federal Contract Compliance Program and defining the scope of its regulations would likewise seem to be reasonable. Yet, over the years, these agencies have developed a web of regulations that are so all encompassing that it may be impossible for an organization to be in full compliance.

This article deals with regulations that apply to "Federal contractors." There are several reasons for this focus. First, since the Federal Government has a potent weapon at its disposal to insure compliance with these regulations (i.e., the termination of all Federal funds now and in the future), the rules governing contractors have tended to be more demanding, and have included the formulation and implementation of affirmative action programs regarding any "protected" groups. Second, as employment in the public sector, and especially employment for some type of government grows, the number of people affected by these regulations is increasing rapidly. There is also a third, less significant reason for this focus: as an employee of a state university, this author finds that these regulations strike close to home. (Incidentally, an educational institution not only must deal with regulations handed down by the Department of Labor, it must also contend with additional regulations mandated by the Department of Education, and formerly HEW.)

In fact, this article does not even deal with **all** the regulations that apply to Federal contractors in the personnel area. It would be well beyond the scope of a paper such as this even to discuss all of those regulations, but that is not meant to imply that they are less important. Perhaps the most critical of those omitted from the present discussion is the Age Discrimination in Employment Act of 1967.[1] This particular act protects workers in the 40-70-year-old age bracket from any form of job discrimination, and, therefore, applies to a substantial portion of the work force. Nonetheless, this article will concentrate only on the regulations involved in Executive Order 12086[2] and their impact on the employer.

One other note seems appropriate before discussing the issue at hand, however. The tone of this article is fairly negative, because the author believes that the current body of regulations facing public sector employers is unreasonable. That is not to imply, however, that the elimination of all regulations is necessarily preferable. Not only is there probably the need for some regulation, but with reasonable administration of regulations, an atmosphere of cooperation could exist where the only aim of the parties involved would be to help those who need protection. Since such an atmosphere does not seem to exist, however, this article illustrates how difficult it can be to comply with the regulations.

There is another purpose for this piece which, hopefully, will become apparent as the reader proceeds. One purpose of the government regulations is to protect certain classes of people who, it is assumed, need protection. It seems, however, that if the regulations are followed to the letter, virtually **every** man and woman in the United States will, at some point in their lives, fall into a protected group. It follows logically then, that, if everyone is given "special" protection, no one is given special protection.

THE REGULATIONS AND WHO IS AFFECTED

On October 5, 1978, President Carter signed Executive Order 12086 which consolidated into the Department of Labor the compliance responsibility for equal employment opportunity programs previously assigned to 11 other agencies. In particular, this article is concerned with compliance under revised Executive Order 11246 (promoting and

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[1] Age Discrimination in Employment Act, 81 Stat. 602 (1967).

[2] Executive Order 12086, **Federal Register**, Vol. 43, October 5, 1978, 46501.

[3] Executive Order 11246 as Amended, **Federal Register**, Vol. 30, September 24, 1965, 12319.

insuring equal opportunity for all persons without regard to race, color, religion, sex, or national origin); the Vietnam Era Veterans Readjustment Assistance Act[1] (protecting veterans who served during the "Vietnam era"); and Section 503 of the Rehabilitation Act of 1973[2] (protecting all "handicapped persons"). These regulations apply to "contractors" who are defined as any person, persons, or institutions entering into an agreement with the Federal Government, "for the furnishing of supplies or services or for the use of real or personal property, including lease arrangements," or any persons or institutions agreeing to perform construction work "which is paid for in whole or in part from funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee . . ."[3] These contractors are bound, under the cited regulations, to provide equal employment opportunity and to develop a written affirmative action compliance program for each of its establishments if the contractor employs 50 or more people, and either (1) the contractor has a contract or bills of lading totalling $50,000 or more; (2) serves as a depository of government funds in any amount; or (3) is a financial institution that is an issuing and paying agent of U.S. Savings Bonds and savings notes in any amount. Coverage, therefore, extends not only to organizations actually holding government contracts, but also to schools, most banks and savings and loan associations, and many hospitals.

Clearly, there is a substantial segment of the work force affected. A closer look at the protection offered by each of these regulations hopefully will shed some light on the potential task facing those organizations that wish to be in compliance.

EXECUTIVE ORDER 11246

This order created the Office of Federal Contract Compliance Program (OFCCP), and addressed discrimination against persons on the basis of race, color, religion, sex, and or national origin. Not only was discrimination against these "protected groups" banned, but the employer also had to take further affirmative action to **insure** that those protected were employed, even to the extent of developing goals and timetables to correct any underutilization found. The groups protected by this order, however, account for a major proportion of the current labor force.

Women are, of course, protected under Executive Order 11246 which specifically prevents employers from relying on "protective laws" restricting women's participation in certain occupational areas as a defense for discrimination. Furthermore, blacks, Spanish-surnamed Americans, Orientals, and native American Indians also are covered. Recent figures from the Department of Labor indicate that nonwhite males and all females together compose approximately 49 percent of the current work force.[4]

In addition, though, the order prohibits discrimination on the basis of religion and or national origin which "covers members of various religious and ethnic groups, **primarily but not exclusively of** Eastern, Middle, or Southern European ancestry such as Jews, Catholics, Italians, Greeks, and Slavic groups."[5] It is difficult to obtain figures on how many male members of these groups are presently in the work force, since almost all would be classified as white males. Traditionally, however, these groups have had extremely high labor force participation rates and so, in toto, this order covers substantially more than half the current work force.

VIETNAM ERA VETERANS READJUSTMENT ASSISTANCE ACT

This act was intended to prevent discrimination against, and promote affirmative action for, veterans of the "Vietnam era." A veteran of the Vietnam era is defined as anyone who served on active duty for a period of more than 180 days "any part of which occurred between August 5, 1964, and May 7, 1975," as long as that person received anything but a dishonorable discharge. Also covered under this act are any persons discharged due to a service related disability incurred during this period even if he or she served less than 180 days. Although this presents some problem in that most experts agree that it is probably illegal to ask someone what type of discharge they received at the time of application, this information can be obtained later, and the real problem is again the scope of coverage. As of 1977, the Veteran's Administration

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[1] Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, Public L. 93-508.

[2] Section 503 of the Rehabilitation Act of 1973, Public L. 93-112.

[3] **Federal Register**, Vol. 43, October 20, 1978, 49241.

[4] According to **Employment and Earnings**, Bureau of Labor Statistics, U.S. Department of Labor, Vol. 27, No. 1, 1980, p. 45.

[5] Part 60-2, Scope of Affirmative Action Programs, **Federal Register**, Vol. 43, October 20, 1978, 49249.

[6] **Federal Register**, Vol. 43, October 20, 1978, 49241.

[7] Section 402, Public L. 93-508.

estimated that there were nearly 9 million Vietnam era veterans,[1] but this number grows every year as more people who served during the specified era end their commitments. Again, no exact figures could be located, but this group is composed largely of white males, who may not be covered elsewhere, adding to the number of those "protected."

REHABILITATION ACT

The group of people that probably presents the greatest potential problem for the employer are the "handicapped" protected under the Rehabilitation Act of 1973. This act prohibits discrimination against, and mandates affirmative action for, anyone defined as "handicapped."[2] The definition of handicapped is quite complex, however, and deserves some discussion. A handicapped individual is defined as anyone who "(1) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (2) has a record of such impairment, *or* (3) is regarded as having such an impairment." It is stated elsewhere that the act is intended to protect only those handicapped persons who are capable of performing the job "with reasonable accommodations to his or her handicap,"[3] but this seems to be somewhat in contradiction of the act's defining someone as "substantially limited" in one or more major life activities if he or she is likely to experience difficulty in securing, retaining, or advancing in employment because of a handicap.[4]

In any event, a more serious obstacle to compliance is presented by "the fairly broad interpretation of "physical or mental impairment":[5]

1. any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: musculoskeletal, special sense organs, respiratory including speech organs, cardiovascular, reproductive, digestive, genitourinary, hemic and lymphatic, skin and endocrine; or
2. any mental or psychological disorder such as mental retardation, organic brain syndromes, emotional or mental illnesses, and specific learning disorders.

Notes accompanying the act in the Federal Register[6] point out that victims of cancer[7] and heart attacks are covered, and both alcoholics and drug addicts are considered handicapped if they suffer the impairment defined above. It is worthy of note that Section 504[8] of the act, which covers recipients of aid from the former Department of Health, Education and Welfare, is far more specific in stating who is handicapped. That list includes persons suffering from mobility impairment; speech, visual, or hearing impairment; diabetes; cancer; dwarfism; heart disease; emphysema; epilepsy; an artificial limb; mental retardation; emotional instability; alcoholism; and drug addiction. It is virtually impossible to determine how many people, not already covered, are included in these groups. Considering the completeness of this list, however, and the rate of incidence of some of these disorders, it is reasonable to believe that, given a long enough life span, **everyone** will fall victim to one of these problems in the course of their lives.

IMPLICATIONS FOR PRACTICE

As stated earlier, the purpose of this article is not to suggest that equal employment opportunity regulations be disbanded. Again, there is probably a need for such regulation, and there is at least the potential for some benefit to be derived from this regulation. The purpose, instead, is to point out the extent of the coverage of these regulations.

It would seem from the evidence presented here that the government contractor is required to establish affirmative action programs for virtually every member of the work force. How, though, does one make a special effort to help everyone? Clearly there must be some priorities, but who is to say that cancer victims are less in need of protection than blacks or women? The OFCCP may not pursue compliance with all of these regulations with the same degree of intensiveness, but the possibility exists that an organization could lose its government contract if it does not comply with all of them.

Does the government realize the implications of all its protective legislation? Probably not. Perhaps no one ever expected the government to pursue

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[1] From **Data on Vietnam Era Veterans**, Office of the Controller, Veterans Administration, September 1977, p. 1.

[2] Public L. 93-1112.

[3] Definition of "qualified handicapped" in **Federal Register**, Vol. 43, October 20, 1978, 49277.

[4] "Under definition of "handicapped individual" in **Federal Register**, Vol. 43, October 20, 1978, 49276.

[5] Section 503 of Public L. 93-1112.

[6] Notes accompanying Rehabilitation Act of 1973.

[7] Section 504 of Rehabilitation Act of 1973, discussed in **Federal Register**, Vol. 42, May 4, 1977.

affirmative action for diabetics, but the potential exists, and so responsible personnel in the organization should be aware of this potential.

Although this section is entitled "Implications for Practice," little can be offered in the way of helpful suggestions. Assuming that an organization does desire to be in compliance, one reasonable approach is to circulate a memo to all employees, seeking to identify those who fall in any one of the protected categories, and then monitoring those employees. This course of action will aid in compliance relative to present employees. The organization might also seek the aid of local veterans groups and any associations that deal with handicapped persons, in an effort to identify qualified job candidates from those protected classes.

For now, one can only hope that reason will prevail, and that no attempt will be made to enforce these regulations to the letter of the law. Unfortunately, the experience of many organizations with government agencies would argue that it is, in fact, the letter of the law that concerns these groups, and not the spirit. If that becomes the case with the regulations discussed here, not only might organizations find compliance a nearly impossible task, but society may find that, in an attempt to protect everyone, it effectively protects no one.

The Times They Are A'Changing: The Growing Dissatisfaction of the Courts with the Performance of the National Labor Relations Board

By Lovic A. Brooks III

Most observers justifiably predict that the new Administration under President Reagan and the now Republican-controlled Senate will lead to a more conservative and business conscious national labor policy. Unquestionably, the power of the President to appoint judges, members of boards and commissions, agency heads, and other high-level government officials has a significant and dramatic impact on this country's labor policies. The Senate also plays an important role in determining the direction of national labor policy, particularly since it must concur with any House passed legislation that would seek to broaden even more Congressional and regulatory agency intrusion into the operating affairs of business.

A direct solution to the problem of the Board's failure to follow court precedent currently being suggested is the abolition of the National Labor Relations Board, or the elimination of its **quasi** judicial function. Then, cases arising under the National Labor Relations Act would originate in, and be decided by, the U.S. District Courts. While there are several surface arguments being advanced against this solution, none withstand close scrutiny. Once again, however, this course of action avoids rather than addresses the real problem which is the failure of the Board to decide the cases consistently and in accordance with the law as interpreted by the courts. Nevertheless, this response to the problem must be seriously considered in the absence of any that address the real problem.

There appear to be no prospects, however, for any drastic change, such as the abolishment of the NLRB, in the near future. It is apparent, therefore, that the immediate solution is for the current members of the Board to be made to recognize their proper role in those areas recently addressed by the courts. Alternatively, the members of the Board

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should be replaced by individuals willing to recognize and accept the basic principle that it is beyond a Federal agency's authority to disagree or ignore the interpretation of the law by the courts.[2] The ever increasing dissatisfaction of the courts with the performance of the NLRB — a performance that has been detrimental both to the interest of the employer and to the peaceful resolution of labor disputes — is a clear indication that the balance of power between management and labor contemplated by the National Labor Relations Act simply no longer exists: the scales are imbalanced in favor of labor.

All employers should take notice of this recent development in labor-management relations, both individually and as groups. On an individual basis, an employer involved in a proceeding with the NLRB can find some reassurance in knowing that an adverse decision by the Board in a case is much less likely to receive court approval than in past years. More importantly, as a group, the voice of business must, and should, be heard by the President, Congress, and the Federal Government. Many business groups and individual employers unsuccessfully but vigorously fought the confirmation by the Senate of President Carter's appointments of William Lubbers as General Counsel for the NLRB in 1979 and of Don Zimmerman as Board Member in 1980. Perhaps if more employers had joined in the battle, the business effort would have been successful. Indeed, more and more employers have recently become politically involved, and this greater voice has led to an increased awareness by Congress, the public, and the political establishment of the current situation with the NLRB. This was demonstrated by the success of business in blocking the confirmation of the reappointment of John Truesdale to the Board in late 1980. It was felt by business that the reappointment of Truesdale, like the appointment of Lubbers and Zimmerman, would result in continued imbalance on the Board which many employers believe now exists, a view that is supported, in part, by the Board's declining performance in the eyes of the courts.

Management has rejoiced, and labor has expressed dire concern, over the results of last November's election. The elevation of Senator Strom Thurmond (R-SC) to replace Senator Edward Kennedy (D-Mass.) as Chairman of the Senate's Judiciary Committee, and Senator Orrin Hatch (R-Utah) to replace Senator Harrison Williams (D-NJ) as Chairman of the Senate's Labor and Human Resources Committee are the most dramatic shifts in power in the history of the Senate as far as philosophies on labor relations and employment law are concerned. With such additional changes in the Senate as the defeat of several of labor's staunchest supporters, labor has lost all hope for passage of so-called labor law reform in the near future. On the other hand, conservative members of Congress and many business groups have renewed hopes for the repeal, or drastic modification, of the Davis-Bacon and Occupational Safety and Health Acts.

A much less publicized but equally significant development affecting national labor policy is the ever increasing dissatisfaction of the courts with the decisions and opinions issued by the National Labor Relations Board (NLRB or Board). From the inception of the National Labor Relations Act[1] in 1935 which created the NLRB and provided for review of NLRB decisions by U.S. Courts of Appeals, the Board and courts have disagreed on many issues, just as the courts have disagreed among themselves. However, the disagreement between the Board and the courts has become greatly pronounced over the last two years. The courts have repeatedly and sharply criticized the Board for its administration and interpretation of the National Labor Relations Act and its failure to acknowledge and apply the law as interpreted by the courts. The obvious significance of this to employers is that a vast majority of NLRB decisions reviewed by the courts involve cases between the NLRB and employers rather than between the NLRB and unions or individual employees.

The courts' dissatisfaction and disagreements with the Board are revealed by both statistics and the language of court decisions. In 1976, 74 percent of the NLRB decisions and orders that came before U.S. Courts of Appeals for review were affirmed in full by the courts. This affirmance rate has declined steadily over the last four years, to a low point of less than 65 percent in 1980.[3]

While the percentage of Board cases affirmed by the courts has always fluctuated, the decline of the Board's success rate between 1976 and 1980 is without precedent in Board history, both in terms of consecutive years and percentage of decline. It would appear on the surface that despite the recent decline in the Board's affirmance rate, the courts

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[1] 29 USCA §§ 151 et seq.

[2] While preliminary figures released by the NLRB show a slight increase of 0.4 percent in the Board's affirmance rate from fiscal year 1979 to fiscal year 1980, this increase is offset by a 0.9 percent increase in the number of decisions set aside or remanded in full by the courts from 1979 to 1980.

nevertheless agreed with the decisions of the Board in a respectable 65 percent of the cases in 1980. In fact, however, this is not the case because an affirmation is not necessarily an indication of a court's agreement with a Board decision. A court's review of a Board decision is limited by law and by decisions of the Supreme Court to the question of whether the Board's decision is supported by "substantial evidence." When the Board initially decides a case, it does so with a different evidentiary standard known as the "preponderance of the evidence." This means that a court cannot substitute its judgment for that of the Board in weighing the evidence. It can only determine if there is some evidence to support the Board decision. In a nutshell, the result of the differing evidentiary standards used to decide cases is that the court is placed in a position of having to affirm a Board decision supported by substantial evidence, even though the court would have reached a different result in the case had it decided the case initially under the preponderance of the evidence standard. Therefore, there is not a direct correlation between the Board's success rate before the courts and the courts' satisfaction with the performance of the Board. Of course, figures can be misleading and are subject to varying interpretations, but the language of the courts in many decisions over the last couple of years unquestionably demonstrates that the Board's declining success in court is attributable to the Board's deliberate failure to apply the precedent of past court decisions and to decide cases on a fair and consistent basis. In the past, a reader of a court decision in an NLRB case could easily find any disagreement by the court with the Board's interpretation of the law, but he would have to read between the lines to ascertain any feelings by the court that the Board's decisional basis was something other than a mere misapplication of the law. There were exceptions, and the Supreme Court was called upon from time to time to resolve disagreements between the Board and the courts on the proper interpretation of the National Labor Relations Act. Such disagreements notwithstanding, however, the Board and the courts had an amicable relationship. Now the times they are a'changing. A reader no longer has to look between the lines to discover a court's negative sentiments toward the Board. A classic example comes from a 1979 decision by the U.S. Court of Appeals for the Third Circuit.

> We express no personal criticism of an independent Federal agency that refuses to accept a judicial determination of this court. We attribute no ulterior motives to the distinguished members of the Board who have publicly, although respectfully, expressed disagreement with this court. But the Board is not a court nor is it equal to this court in matters of statutory interpretation. Thus a disagreement by the NLRB with the decision of this court is simply an academic exercise that possesses no authoritative effect . . . . **Congress has not given to the NLRB the power or authority to disagree, respectfully or otherwise, with decisions of this court** . . . . For the Board to predicate an order on its disagreement with this court's interpretation of a statute is for it to operate outside the law. Such an order will not be enforced. (Emphasis supplied.)

If the Third Circuit receives credit for the most succinct statement of the role of a Federal agency in relation to that of a Federal court, individual honors for the most colorful language in this regard must go to Judge Aldrich of the U.S. Court of Appeals for the First Circuit. A sampling of two recent quotes of Judge Aldrich show his style for eloquent criticism.

> Over the years we have observed that our decisions restricting the Board are rarely cited by it, no matter how pertinent, a seeming symbolic book burning difficult to ascribe to oversight.[1]

> While I fully concur in the court's opinion, and admire its careful compilation of authorities, I fear that this expenditure of our time is wasted on the Board. As these authorities, and the present case reveal, the Board seems unable to recognize that as a matter of business judgment there can be only one course open to management [in such circumstances] . . . If the Board does not recognize the validity of our rule, it must, at least, recognize the validity of our word. **Neither employers, nor this court, should be put to totally needless litigation.** (Emphasis supplied.)

A few additional indicative quotes from recent court decisions reveal the apparent frustration and even anger of the courts with the Board. The U.S. Court of Appeals for the Second Circuit, for example, stated in a 1980 case that

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Allegheny General Hospital v. NLRB, 608 F.2d 965, 970 (3rd Cir. 1979).

NLRB v. Eastern Smelting & Refining Corp., 598 F.2d 666, 670 (1st Cir. 1979).

Liberty Mutual Ins. Co. v. NLRB, 592 F.2d 595, 606 (1st Cir. 1979). (Aldrich, J., concurring).

> . . . the Board cannot, as it did here, choose to ignore [court precedent] as if it had no force or effect. Absent reversal, that decision is the law which the Board must follow. The Board cites no contrary authority except its own consistent practice of refusing to follow the law of the circuit unless it coincides with the Board's views. This is intolerable if the rule of law is to prevail.

The Court of Appeals for the District of Columbia Circuit similarly stated in a 1979 decision that "this process of **ad hoc** and inconsistent judgment . . . has descended in the instant case almost to the point of absurdity."

The U.S. Court of Appeals for the Seventh Circuit is equal to the task when it comes to recent criticism of the NLRB.

> The Board's cavalier treatment of this matter, in the face of ample precedent to the contrary, is simply inexcusable. The Board is reminded that the National Labor Relations Act must not be enforced in a vacuum.
>
> . . . the Board attempts factually to distinguish this case from **West Surburban,** basing that distinction on precisely the factors used in a traditional community of interest analysis. In a similar vein, the Board ignores in its brief any meaningful discussion of the Third Circuit's decision in **St. Vincent's Hospital**. . . . Such flagrant disregard of judicial precedent must not continue. Not only is the Board obligated under the principles of **stare decisis** to follow this court's decision in **West Surburban,** but it also owes deference to the other courts of appeals which have ruled on the issue.

One of the earlier cases in this recent trend of court decisions offering terse admonitions of the limitations of the Board's authority is the 1978 decision of the U.S. Court of Appeals for the Fifth Circuit in **Federal-Mogul Corp. v. NLRB.** In that case, an administrative law judge of the Board refused to allow evidence that the Fifth Circuit, as well as other circuit courts, had found to be admissible evidence. The administrative law judge explained during the trial when he excluded the evidence that he tried cases for the Board and not for the courts. The case was appealed by the employer through the Fifth Circuit, and the court found the judge's statement to be "improper."

One would think that an administrative agency so clearly admonished by the courts would mend its ways. Indeed, last year the Board adopted a new approach for deciding "dual motive" discharge cases where discharge of an employee is motivated by both lawful business considerations and unlawful union considerations. The Board had been criticized repeatedly by the courts for many years for its inconsistent and improper treatment of this type case. The new approach adopted by the Board last year reflects the position taken by many courts for years. However, for the most part, the NLRB continues blatantly to disagree with the courts on many points of law.

For example, in a case last year the Board ordered an employer to bargain with a union that had lost an NLRB election. The Board found that the employer's flagrant unfair labor practices dissipated the union's majority support among employees and precluded the holding of a free and fair election. A bargaining order in the absence of an election victory is an extraordinary remedy available to the Board; an election is the preferred method of determining whether employees desire union representation. The U.S. Court of Appeals for the Second Circuit refused to enforce the Board's order and instead remanded the case to the Board to explain why it felt a bargaining order, as opposed to the preferred remedy of a rerun election, was appropriate, including consideration of whether significant employee turnover since the unfair labor practices occurred made a bargaining order inappropriate. On remand, the Board expressly refused to consider employee turnover as a factor in deciding on the appropriateness of a bargaining order and did not further explain, as directed by the court, the reasons it felt a bargaining order was appropriate. The employer once again had to appeal to the Second Circuit, and a few months ago, an obviously displeased court set aside the Board's bargaining order.

In another recent case, the U.S. Court of Appeals for the Seventh Circuit remanded a case to

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Ithaca College v. NLRB, [illegible]

Yellow Cab Co. v. NLRB, [illegible]

NLRB v. Mutual Maintenance Service Co., Inc., [illegible] (7th Cir. 1980).

Mary Thompson Hospital v. NLRB, [illegible] (1980).

[illegible]

Wright Line, Inc., [illegible]

NLRB v. Jamaica Towing, Inc., [illegible]

the Board because the Board had improperly excluded from the trial relevant evidence to the determination of the point of law in issue. On remand, the Board did not take the additional evidence as directed by the Court but instead rewrote its opinion finding it unnecessary to take additional evidence. When the case came before the Seventh Circuit for the second time, the frustrated court admonished the Board and denied enforcement of the Board's order for failure to follow its mandate.[1]

As can be seen from these cases, the Board uses two approaches in dealing with unfavorable court precedent. In some cases, the Board simply ignores the adverse decisions as if they did not exist — the "symbolic book burning" approach, as Judge Aldrich termed it. In other cases, especially those the Board realizes will find their way to court, the Board expressly states its disagreement with the court's interpretation of the law — the "respectfully disagree" approach sharply criticized by the Third Circuit in the **Allegheny General Hospital** case quoted above.

As the courts have ruled, neither approach is permissible. In all fairness to the Board, on some points of law the Board is placed in a dilemma when one court accepts its interpretation of the law and another court rejects it. Nevertheless, the courts have even criticized the Board in these situations for its failure to seek Supreme Court review when there is a disagreement among circuit courts on the law.[2] Where the Board has sought Supreme Court review but the Court has denied review and not resolved the conflict in law among the circuit courts, the Board is truly in a dilemma, but the situation is not beyond a plausible solution.

The Department of Labor, for example, has adopted a policy of applying the law of the circuit court for the area of the country in which the case arises in deciding on its position in cases under the Fair Labor Standards Act.[3] Such a policy has been suggested by some for the Board. The Board, however, has not shown a willingness to abandon its position on an issue of law, which it may be forced to do if it seeks appeal to the Supreme Court.

On those points of law on which the circuit courts agree, the Board's continued use of its own interpretation of the law to decide cases presents a problem not so readily solved. At this time, the courts' criticism of the Board has not inhibited or deterred the Board to any significant degree. The problem is that the Board defiantly adheres to its own view of the law and is willing to take an occasional loss in court knowing full well that most cases will not find their way to court because of the prohibitive expense of court litigation. A potential but partial solution to this problem may be found in the Equal Access to Justice Act passed by Congress in 1980, to become effective on October 1, 1981, which allows businesses with a net worth of less than $5 million or an individual with a net worth of less than $1 million to recover attorneys' fees and other expenses when they are a successful party in a suit or administrative proceeding in which the U.S. government is the adverse party. Although the purpose of this legislation is to remove the deterrent for small businesses and individuals to seeking review of, or defense against, unreasonable government action caused by the extreme cost of litigation with the government, the new law should also serve the purpose of deterring unreasonable action by governmental agencies. An increased burden on the budget of a Federal agency caused by the agency's unreasonable or improper actions would make the agency more accountable to Congress and, therefore, presumably more cautious in its actions. The difficulty with such an approach to solving this type of problem is that it penalizes taxpayers for improper government action; it is at best a "robbing of Peter to pay Paul" type solution to the problem. The source of the problem lies, however, with those responsible for the improper action, so the focus should be on a solution directed at the cause and not the effect.

Hendricks County Rural Electric Membership Corp. v. NLRB, 627 F.2d 766 (7th Cir. 1980).

Ithaca College v. NLRB, supra at n. 6.

[3] See U.S. Department of Labor, Wage-Hour Opinion Letter No. 160 (April 26, 1972).

The Management Bookshelf

By Dwight Gardner, Business Librarian, M.B.A., M.S.L.S.

The Management Bookshelf is a service to our readers provided by the Elliott White Springs Library of the College of Business Administration of The University of South Carolina.

1980 AUBER BIBLIOGRAPHY
by the Association for University Business and Economic Research
Bureau of Business Research
209 Armstrong Hall
West Virginia University
Morgantown, WV 26506
1980, 325 pp., $12.50
This reference tool serves as an index of 2,400 articles, books, working papers, and reports produced by 131 economics and business research organizations. Listings are by subject, issuing agency, and author.

FORECASTING METHODS FOR MANAGERS
by Steven Wheelwright and Spyros Makridakis
Third Edition
John Wiley & Sons, Inc.
605 Third Ave.
New York, NY 10016
1980, 362 pp., $28.95
This text provides a survey of the various types of forecasting methods available to managers, how each technique can be applied to a business situation, and the corresponding strengths and weaknesses of each method. Sources for additional study are included with each chapter.

HANDBOOK OF BUSINESS PROBLEM SOLVING
Edited by Kenneth Albert
McGraw-Hill Book Co.
1221 Ave. of the Americas
New York, NY 10020
1980, 864 pp., $24.95
This collection of articles written by management consultants covers many common business problems in a variety of management areas. The authors explore all aspects of the problem solving process, offering helpful advice.

EMPLOYING THE UNEMPLOYED
Edited by Eli Ginzberg
Basic Books, Inc.
10 E. 53rd St.
New York, NY 10022
1980, 250 pp., $15.00
In this volume, 10 authorities on manpower policy evaluate the nation's job training programs and measure the actual results against the stated objectives of improved worker employability. They discuss problems with the current system as well as recommendations for reform.

WHAT HAPPENS IN MANAGEMENT: PRINCIPLES AND PRACTICES
by Maurice Hecht
AMACOM
135 W. 50th St.
New York, NY 10020
1980, 240 pp., $14.95
This book covers the fundamentals of management practice from the theoretical to the practical. The author employs numerous case studies in illustrating his points.

SLOWTH: THE CHANGING ECONOMY AND HOW YOU CAN SUCCESSFULLY COPE
by Martin Kupferman and Maurice Levi
John Wiley & Sons, Inc.
1980, 264 pp., $12.95
The authors of this timely volume discuss the condition of slow economic growth. They analyze the reasons for this slowdown and some of the adjustments that will be necessary in American life styles.

* * *

Readers are invited to submit titles of books that they wish to call to the attention of others.

STATISTICAL INDICATORS OF SOUTH CAROLINA BUSINESS

ITEMS	September 1980	September 1979	Latest Month Percentage Change from Year Ago

Division of Research
College of Business Administration
The University of South Carolina
Columbia, South Carolina 29208

Non-Profit
Organization
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by John Hutto

"A Review of Recent Trends and Events in Workers' Compensation"
by John E. Logan

"The Employer and Employment Laws"
by James J. Baldwin

"Bottom Lines"
by James B. Edwards

"Education, Economy Inseparable Forces in South Carolina's Past and Future"
by Charlie G. Williams

"An Introduction to Money Market Mutual Funds and an Analysis of Their Performance"
by Michael G. Ferri and H. Dennis Oberhelman

"USC College of Business Administration Update: Foundation Fellows Named"
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Summary of Contents

3 **Professional Training Program at Policy Management Systems.** Forward-looking software companies are solving the personnel shortage problem with in-house training programs such as the one at Policy Management Systems (PMS), a division of Seibels, Bruce and Company. In the fifth offering in the **Business and Economic Review's** industrial series, John Hutto, Marketing Communications Manager at PMS, describes this program and points out that the ultimate measure of a training program's success is how well its graduates are able to contribute to company objectives.

6 **A Review of Recent Trends and Events in Workers' Compensation.** Dr. John Logan, an authority on workers' compensation, takes a hard look at recent trends in this field, and concludes that (1) it is a complex system with multiple objectives, (2) the problems related to it are never resolved, (3) the controversy surrounding it is never eliminated, and (4) its emerging problems are in almost constant need of careful, impartial scrutiny.

15 **The Continued Adherence to the Terminable-at-Will Rule in South Carolina.** In this month's **The Employer and Employment Laws,** James J. Baldwin, partner in the law firm of Haynsworth, Baldwin and Miles, examines the terminable-at-will rule in South Carolina and points out that although the courts in this state are still comfortable with the common law view that employers have the legal right to terminate employees at will, in view of national judicial decisions on this subject, it is unclear how long this condition can continue.

20 **Insurance-Keyed Tax Benefits.** In his latest **Bottom Lines** column, Dr. James B. Edwards, Professor of Accounting and expert consultant to management, looks at insurance-keyed tax benefits and gives advice on tax angles that may help reduce the taxpayer's IRS bill.

22 **Education, Economy Inseparable Forces in South Carolina's Past and Future.** Dr. Charlie G. Williams, South Carolina State Superintendent of Education, discusses education in South Carolina's past and future and points out that education and the state's economy are forever married "for better or worse." He adds that a happy union between the two will guarantee both a richer and a better future for South Carolinians, and that the state's economic system and educational system must progress together or neither will move very quickly.

27 **An Introduction to Money Market Mutual Funds and an Analysis of Their Performance.** Money funds are becoming among the most popular investment opportunities in this country. Dr. Michael Ferri and Dr. Dennis Oberhelman, who have long studied the administration and operations of these funds, point out that there are both advantages and disadvantages. They provide information and advice that should be helpful to anyone wishing to make a wise investment.

31 **USC College of Business Administration Update: Foundation Fellows Named,** an annual feature in which Virginia Ann Van Seters, Associate Editor for USC BA's Division of Research, introduces that college's latest Foundation Fellows.

35 **The Management Bookshelf,** a regular feature in which Dwight Gardner, USC BA's Business Librarian, reviews books of interest to business practitioners.

36 **Statistical Indicators of South Carolina Business.** A regular feature, listing the latest available data.

business and economic review

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This month's cover: Since 1969, when it established its Annual Watercolor Competition, Seibels, Bruce and Company has been one of the Palmetto State's patrons. This juried competition, open to all natives and residents of South Carolina, began when Seibels, Bruce commissioned 6 local artists to paint pictures of 6 historically important places in this state as a part of the company's 100th anniversary celebration. The idea took hold, and each year 35 of the competition's best entries are hung in the Columbia Museum of Art for 1 month (October 11-November 11). The remainder are placed on display in the Seibels, Bruce Gallery for public exhibition (9:00 a.m.-4:00 p.m.). Depicted on this month's cover is the 1980 winning entry, "Circular Congregational Church" by Charleston artist James Gensmer; and W. J. Shealy, Seibels, Bruce Vice-President and Administrator of the Watercolor Competition. See page 3 of this issue.

Professional Training Program at Policy Management Systems

By John Hutto

EDITOR'S NOTE: The role of colleges and universities in educating individuals for positions of leadership is relatively well-known. Sometimes overlooked, however, are the internal programs of businesses and other organizations to continue the educational process for their employees. This article is the fifth in a series designed to give a familiarity with the recruitment, training, and communications programs in the various types of industries, i.e., banking, textiles, the electrical industry, etc. We are specifically interested in such topics as productivity, absentee control, discipline, cost control, quality control, scrap reduction, etc. If you have programs on these topics you would like others to know about, please contact us so we can arrange to have a representative talk with you about possible articles on them.

These are the best of times — for the application software industry. Technology is in step with customers' needs, sales are brisk, and forecasts indicate a bright future for product demand. The irony, however, is that the industry may not be able to supply the products fast enough because of a shortage in software research and development personnel. There simply aren't enough data processing people for the available jobs, and the situation is worsening. The Department of Labor predicts that by 1990, job availability will have increased by 84 percent without a proportionate increase in trained personnel.

POLICY MANAGEMENT SYSTEMS

Forward-looking software companies are solving the personnel shortage problem by forming in-house training programs such as the one at Policy Management Systems (PMS) in Columbia, South Carolina. A division of Seibels, Bruce and Company, PMS develops and markets application software for the property and casualty insurance industry.

Debbie Jeffcoat, B.S. in Finance from the College of Business Administration at The University of South Carolina, training in policy data entry.

Briefly: PMS was established in 1974, had 3 customers, $100,000 revenue, and 80 employees. By the end of 1980, PMS had 160 customers worldwide, revenue of $17 million, and 700 employees. Because of this growth trend, management at Seibels, Bruce and PMS decided that if the company were going to meet the future software needs of the insurance industry and continue to provide service to its existing customer base, a training program needed to be started to ensure a flow of qualified employees.

Program's Early Days

PMS's Professional Training Program was established in October 1978 to train individuals as

John Hutto is Marketing Communications Manager at Policy Management Systems. He graduated with B.A. and M.A. Degrees in English from The University of South Carolina. Hutto has written articles on insurance software for several computer and insurance publications, and teaches business communications in the evening program at Midlands Technical College in Columbia.

generalists in insurance, data processing, and PMS products. The original plan called for all trainees to spend 12-18 months in various phases of both classroom and on the job training. Management decided, however, that such an approach would mean the trainees might be instructed in facets of the business they would not be using, such as mundane clerical work. Another potential problem was that trainees would not be placed in the work force quickly enough.

These early concerns stemmed primarily from the program's newness. Its designers had not found a suitable model in traditional industries because of PMS's unique business. After receiving constructive evaluation from various levels of company management, Program Manager Judy Byerly decided that another approach was necessary.

Program's Present Structure

The program now runs 8 months instead of the original 12-18, the curriculum has been redesigned, and the on the job training (OJT) consists of more relevant exposure. Trainees coming into the program spend the first week in orientation where PMS history and its policies and procedures are explained. Then, the more disciplined academic instruction begins.

Since the goal of the program is to train people to become generalists in insurance and data processing, equal time is spent on each subject, depending upon the individual trainee's background. Most spend 6 weeks in property and casualty insurance classes learning insurance concepts, typical company operations, rating, underwriting, claims management, accounting, reporting, and how PMS automates these functions. Students with previous insurance experience are given more intensive training in dat processing.

The typical data processing training also lasts 6 weeks, 5 of which are generalized and 1 devoted to PMS technical products. Since the application software business is highly competitive, those who develop information processing systems have to be well trained and their products state of the art. Students learning data processing at PMS are assured that the instruction reflects the latest thinking in computer technology and software design. The concepts presented are likely to be in advance of what's being taught at technical schools or universities, since software development companies, out of necessity, have to be innovative and creative.

An equal amount of time is devoted to on the job training. OJT at PMS has several objectives: to teach the PMS business, to show how PMS systems fulfill insurance data processing needs, to demonstrate PMS procedures for project management, to expose trainees to the various methods PMS uses to meet its objectives, to allow the trainees to apply on a practical level what was learned on the academic level, and to acquaint trainees with the operations of a property and casualty company in an automated environment.

The first phase of OJT sends trainees to the PMS Data Center, which houses the most advanced computer equipment on the market. Here the students learn to operate computers and printers, to mount tapes, to load disk drives, and to process various kinds of input and output. They learn in general how data centers support the daily needs of a property and casualty insurance company.

The student then is sent to the Policy Services Department. Found in every insurance company, this department exposes the trainees to data entry, billing and collection procedures, balancing, and agency interfacing. The trainee sees the work flow of a typical insurance policy from the time the application is received in the mail until the policy is underwritten, rated, computer printed, assembled, and mailed.

In the PMS Professional Training Program the greatest amount of OJT activity is centered in the Customer Services Division. PMS develops and licenses software and provides data processing services as well. Companies choosing not to buy computer hardware can acquire the function from PMS. These so-called processing accounts, located in the USA and Canada, are linked by telephone lines to the PMS Data Center. The customer uses video display terminals to enter and view data being processed at PMS.

Training in Services allows the students to learn insurance company operations, research methods, account management, systems analysis, systems design and modification, and systems implementation. In essence, the division is a microcosm of the company. Every aspect of the PMS business is represented in Services, even customer education.

PMS offers extensive educational opportunities for both employees and customers. The facilities are expansive and modern, and the trainee can participate in curriculum development and learn effective teaching methods.

After the formal OJT concludes, trainees are sent to classes in project management and Assembler and CICS programming. Depending upon the trainee's background and aptitude, the latter classes may be omitted.

RECRUITING

Trainees accepted into the program are recruited

Project manager Elliott Zember explains testing procedures to trainee Amy Goers. Amy graduated from Wake Forest University with a B.S. Degree in Business.

primarily from 4-year colleges and universities in the Southeast. Manager Judy Byerly says that restricting recruitment to the Carolinas, Georgia, and Kentucky brings in a group of graduates who probably will be close to their homes, which means that they will be more inclined to come into, and remain in, the program.

PMS recruiters strive to enlist those graduates with a demonstrated ability to achieve. Preference is given to candidates with an academic background in business, mathematics, computer science, or insurance. Of those accepted, 60-65 percent are business graduates. Most have bachelor's degrees, though some have MBA's, J.D.'s, or even Ph.D.'s. Manager Byerly says,

> Actually, we have found that the type of degree really doesn't matter. Because of the nature of our business, however, we feel that graduates in business or technical fields will find the work more satisfactory than a liberal arts graduate would. Regardless of the degree conferred, the candidate's aptitude and desire are just as important. We look for people who think logically, who are problem solvers, and who can adapt to the PMS environment.

Adapting to the pace in a competitive software company can be challenging because the industry changes practically every day. Consequently, the trainees in the program have to be flexible and not easily frustrated. As a result, the recruiters tend to like those candidates who have had previous work experience and who have financed at least 75 percent of their college education.

STAYING IN THE PROGRAM

Being accepted into PMS's training program is not easy because of the high requirements. Once in, however, most trainees stay and finish the course. To date, the attrition rate has been relatively low. In the last 2 years, only 6 people (out of 66) have left: 2 were fired, 1 went into the Marine Corps, 2 went to graduate school, and 1 joined a computer vendor.

There are several reasons for the low turnover: (1) the salary is competitive with other industries, (2) the program affords an opportunity to work with a growing company, (3) there's room for professional growth and promotion, and (4) a good spirit prevails among the trainees.

The trainees enter the program as a group (42 in 1981), study and attend classes together, train in the same job areas, and often live in the same apartment complexes. "This is a close-knit group, a closeness that continues even after the 8-month program is completed," says Byerly. "The trainees find they are able to support each other professionally, and there is always someone in other departments they know."

EVALUATING THE PROGRAM

The ultimate measurement of a training program's success is, of course, how well the graduates are able to contribute to meeting the company's objectives. Often this determination is made only after a person has left the program, but at PMS, measuring the program's effectiveness begins when new training sessions begin.

Much of the evaluation comes from the trainees themselves. One of the earliest evaluations is a weekly report. The trainee lists that week's accomplishments, describes any problem encountered, and illustrates how it was solved. He also relates his reactions to the week's training.

Another effective form of evaluating is the bi-weekly meeting held with the entire training group and program managers. Ideas and experiences are shared and problems solved and anticipated.

More formal evaluations with individual trainees are conducted by the program coordinator and the OJT managers. The monthly, and final, review objectively measures what the trainee has learned in his 8 months of academic work and OJT. Programming, fundamentals of data processing, insurance company operation, planning, systems development, company policies — every aspect of the training is evaluated.

Finally, the coordinator sends a questionnaire

to the trainee's present manager, former OJT manager, and the trainee himself 6 months after the trainee has been placed in a specific job. Based upon their responses, the coordinator determines if the program has been successful for that trainee. If necessary, the information gathered from all of the responses will be used to realign the program to meet both PMS's and the customer's needs.

END PRODUCT

According to G. Larry Wilson, President of PMS, the purpose of the training program is to produce a person who has a general knowledge of a property and casualty company operating in an automated environment. However, the program does more than that. Peter Kennison, for example, who graduated from The University of South Carolina with a B.S. Degree in Management Science, was placed in the Marketing Division's Research Department. According to Kennison,

> The insurance and data processing training I received from the program is enabling me to work productively in my present position. More important, however, is what the program has done for me personally. I entered into the training as a green college student and emerged a professional. The program has molded me into a workable unit, conscious of my image, and the contributions I can make.

A Review of Recent Trends and Events in Workers' Compensation

By John E. Logan

INTRODUCTION

In 1972, President Richard M. Nixon established a national commission to study state workers' compensation systems. This National Commission on State Workmen's Compensation Laws,[1] a group of 15 people well versed in all facets of workers' compensation, severely criticized the existing workers' compensation systems and called for a substantial liberalization of benefits and administrative reforms. They recommended a Federal takeover of the systems, if the commission's most important recommendations were not met by 1975.

As a result of this increased attention paid to, and pressure placed on, the workers' compensation systems, virtually all states met the commission's 1975 standard in the early to mid-1970's with regard to maximum weekly compensation (that it equal at least 100 percent of each state's average weekly wage). However, in many, if not most states substantial criticisms of workers' compensation systems are still being made. At the national level, several academicians have called for reforms ranging from abolishing the systems, to reducing payments in minor cases, to a federalization of the systems with the Federal Government establishing minimum standards and possibly even taking over the administration of "substandard systems." A bill to provide for the Federal setting of minimum payment standards for injured workers was submitted to a subcommittee of the United States Senate each year from 1975 to 1980.

At the local level, maximum benefits have increased significantly. In South Carolina maximum weekly benefits rose from $50 a week in 1971 to $216 a week in 1981, while maximum benefits in death cases increased from $12,500 in 1971 to $108,000 in 1981. However, there is evidence that dissatisfaction may exist on the part of some with regard to the workers' compensation system in this state. Average workers' compensation insurance premiums increased about 50 percent in the 1978-'80 period. At the same time, insurance carriers have filed for another 8 percent premium increase. Several groups, particularly those concerned with the "brown lung disease" problem, feel that the scope of the coverage of occupational diseases under the South Carolina law is not broad enough.

In this brief review of recent events surrounding workers' compensation legislation and systems, this author begins by providing a brief overview of the systems. He then presents some recent critiques of workers' compensation, analyzes changing workers' compensation costs in South Carolina, and reviews the reform in workers' compensation legislation in Florida. Finally, he presents some conclusions.

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[1]In keeping with the trend toward the "degenderization" of words, the term now generally used is "workers' compensation."

A BRIEF OVERVIEW OF WORKERS' COMPENSATION

Introduction

One of the unanticipated results of the Industrial Revolution was a substantial number of injuries and deaths at the work place. During the late 1800's, many European nations established social insurance mechanisms and systems to provide free medical care and payments to individuals injured at work. In the United States, a worker could recover compensation only by suing his employer for negligence. Employers during this period had several common law defenses to protect them. This system also did not provide equity and consistency of payments. It was estimated, for example, in the early 1900's that 87 percent of work related injuries were without legal relief.[2]

As a result of the European example, the problems associated with the common law system of remuneration in the United States, and the tragic Triangle Shirt Co. fire in New York City in 1911, in which over 100 women workers perished, several states passed workers' compensation laws. By 1920, 42 states had such laws, and by 1948, the remaining states had followed suit. The basic elements of these laws were that in return for the employer's being subject to strict limited liability with regard to work related accidents and injuries, the worker would receive free medical treatment, a portion of wages lost during the period in which he could not work, and payments for the loss or loss of use of part or parts of his body. A brief review of the different forms of payments follows.

Benefits

1. Medical Payments. In the large majority of states, all medical payments arising out of work related accidents are made by the employer or the employer's insurance carrier.

2. Temporary Total Disability Payments. Temporary total disability payments are made to injured workers while they are out of work recovering from work related injuries. In order to promote a rapid return to work and to minimize costs, most states do not require workers to receive compensation for the first 3 to 7 days of work missed, unless they are out of work for periods ranging from 7 to 14 days.[3] In most states the payments made will be two-thirds of lost wages, subject to a weekly maximum. In 1980, maximum weekly benefits ranged from $98/week in Mississippi to $650/week in Alaska. (This latter amount was 166 2/3 percent of Alaska's average weekly wage.) In South Carolina in 1980, the maximum weekly payment was two-thirds of lost wages, subject to a maximum of $197/week, which was 100 percent of the average state industrial wage.

3. Permanent Total Disability Payments. In most states, if a worker is injured on the job and can no longer work, he receives compensation payments for life. In South Carolina and 4 other states compensation is limited. Beginning in 1981, South Carolina limited compensation in total disability cases to 500 weeks and $108,000. Critics argue that such limits save the employer little money since there are relatively few total disability cases, but inflict extreme financial hardship on the victim who must bear a total loss of earnings and high medical and rehabilitation expenses.

4. Death Payments. Death benefits are paid to the dependents of a worker killed in a work related accident. In 34 states, the total amount of such payments is not limited, provided legal dependency continues. In some of those states in which additional payments are made to dependent children, payments continue until the children reach adulthood. South Carolina limits payments to 500 weeks and $108,000 and does not make additional payments for dependent children. Supporters of limited payments argue that they do not

[2]The source for the historical data in this paper is John E. Logan, **An Analysis of Workmen's Compensation: South Carolina and the Nation,** ESSAYS IN ECONOMICS Series, no. 26 (Columbia: Bureau of Business and Economic Research, The University of South Carolina, 1972). A review of much of this study can be found in: John E. Logan, "The Past, Present, and Future of Workmens' Compensation: South Carolina and the Nation," **Business and Economic Review** 19 (October 1972): 2-8.

[3]In South Carolina, the waiting period for benefits is 7 days and the retroactive period is 2 weeks (14 days). Source: Chamber of Commerce of the United States, **Analysis of Workers' Compensation Laws, 1980 Edition** (Washington, D.C.: Government Printing Office, 1979), pp. 22 and 23. (Most data in this article on current compensation levels came from this source.)

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wish to discourage the spouse from entering the labor market and/or remarrying. Opponents argue that in many states death benefits do not adequately replace lost earnings. More will be said about this subject later.

5. Permanent Partial Disability Payments. Permanent partial disability payments are made when a work related accident results in the loss or loss of use of a part or parts of the body. Remuneration generally is made on the basis of the extent of loss and a schedule that states how many weeks of compensation are due given the extent of the injury or injuries. These payments constitute a major source of workers' compensation expenses and in almost all states are made whether or not income loss is sustained. Critics argue that payments are not made in relationship to wage loss, that prompt recovery is not encouraged, and that conflict frequently is fostered over the extent of disability. Many argue that much of the money spent in this category of cases could be better spent in more serious cases. In fact, Florida has recently revised its system of permanent partial disability payments to concentrate more fully on income loss. This system is discussed more fully in a later section of this article.

Maximum payments, given the extent of the injury, vary substantially between states. For example, in 1980, payments for the loss of an arm varied from $6,750 in Massachusetts to $105,957 in Illinois. (Maximum payments in the District of Columbia were $132,993.) The maximum payment in South Carolina in 1980 was $43,340.

Recent Controversy

From approximately 1940 until 1970, workers' compensation benefits did not keep pace with rising salaries and inflation. For example, the maximum weekly compensation for temporary total disability in South Carolina declined from 153 percent of the average weekly wage in 1940 to 52 percent in 1970. In addition, many argued that benefits in serious injury cases were totally inadequate. For example, in a major study of workers' compensation benefits in 1961, Professor Earl Cheit of the University of California at Berkeley noted that 34 states replaced less than 20 percent of estimated wage losses in death cases.[4]

Around 1969, various officials of the AFL-CIO began calling for increases in workers' compensation benefit levels and the Federalization of workers' compensation systems to provide increased and standardized benefits across the country. In response to this action the two major insurance carrier associations — the American Insurance Association and the American Mutual Insurance Alliance — called for increased benefits and increased research dealing with the efficiency and effectiveness of the various state workers' compensation systems. Many industry and state government officials also called for reforms within the existing systems.

President Nixon's National Commission on State Workmen's Compensation issued its report in July 1972. It was extremely critical of existing systems, concluding that "... the states' workmen's compensation laws in general are inadequate and inequitable."[5]

Among the recommendations made by the Commission was the request that maximum benefits equal at least 100 percent of each state's average weekly wage by 1975, 166 2/3 percent by 1979, and 200 percent by 1981. By 1980, only 3 states had met the 1979 standard. Other key recommendations called for unlimited medical benefits and the elimination of benefit limits in death and permanent total disability cases, industry and small firm exemptions, and "narrow definitions" of occupational diseases.

Although substantial reforms have been made, experts still argue that few states have complied totally with the "essential recommendations" of the National Commission on State Workmen's Compensation Laws. It is on this basis that Senator Jacob Javitz (R-NY) and Senator Harrison Williams (D-NJ) have proposed bills each of the last 6 years calling for the Federal Government to set workers' compensation benefit levels. Some of these bills called for the U.S. Department of Labor or other Federal agencies to take over the administration of those state agencies that have not met Federally set standards. Since the change of majority status in the U.S. Senate, it remains to be seen if such bills will continue to be forthcoming.

RECENT CRITICISMS OF WORKERS' COMPENSATION SYSTEMS

Neither the recommendations of the National Commission on State Workmen's Compensation Laws nor the subsequent liberalizations of benefits in every state have eliminated criticisms of the existing workers' compensation systems. In order to review the various types of criticisms and reforms proposed in recent years, this author studied three academics' criticisms of the systems. While their evaluations are not all inclusive, they

[4] Earl F. Cheit, **Injury and Recovery in the Course of Employment** (New York: John Wiley & Sons, Inc., 1961), pp. 104 and 105.

[5] A summary of the report's major recommendations can be found in the **Wall Street Journal**, 1 August 1972.

are representative. The major recommendations made by the three academic critics were (1) that the systems be eliminated, (2) that a greater emphasis be placed on safety and economic incentives, (3) that Federal standards be set, and (4) that permanent partial disability payments be set to correspond more closely to economic losses.

Elimination of the Systems

Professor Robert J. Paul of the University of Missouri looked at the objectives of workers' compensation set down by the national commission and attempted to analyze the performance of the systems. The objectives were

1. to pay certain, prompt, and reasonable compensation to victims of work accidents;
2. to eliminate delay, costs, and wastes [in] personal injury litigation;
3. to study and attempt to reduce the number of accident cases rather than to conceal them;
4. to provide prompt and adequate medical treatment; [and]
5. to provide rehabilitation for workers unable to return to their former jobs.[6]

Professor Paul concluded that workers' compensation laws do reduce litigation and generally have provided for prompt and adequate medical treatment. Overall, though, he felt that the systems were not performing efficiently and effectively and that they do not achieve most objectives.

> Not only are workers' compensation objectives inadequate overall, but compensation payments are also discriminatory from state to state with regard to both where the injury occurs and the seriousness of the disability.[7]

He argued that the "ultimate solution" would be the elimination of the workers' compensation program and the expansion of social disability and medical insurance systems to cover job related injuries as well as nonjob related accidents and illnesses.

> Over the years, gradual revision has updated workers' compensation laws, moving them ever closer to social disability and medical expense insurance coverage in philosophy and effect. It is time to bring actual operation and philosophy into agreement.[8]

Greater Emphasis on Safety and Economic Incentives

Professor James R. Chelius of Purdue University, a member of the staff of the National Commission on State Workmen's Compensation Laws, took a different tact with regard to workers' compensation reform in a study sponsored and published by the prestigious American Enterprise Institute. He pointed out "that while income maintenance and efficient [accident] prevention are both desirable goals, there is unfortunately a conflict between them."[9] He concluded that current workers' compensation policies favored income maintenance over accident prevention, partially because a large proportion of industrial accidents (45 percent) were due to employee negligence.[10]

He argued that employees should bear more of the cost of minor accidents, implying that benefits should not be paid for minor lost time accidents. He argued, however, that in extreme employer negligence cases, employers should be liable for suits in addition to having to pay compensation to injured workers. To support this point, he cited an example involving 30 employees of a Kepone manufacturing plant who contracted cancer. Both the small firm producing the chemical for a large firm and the large firm claimed that they were the employers in order to eliminate liability for negligence suits.

> This situation provides an insight into the potentially perverse incentives of workers' compensation. A news service [CBS] alleges that while the major chemical company was publically denying anything other than a buyer/seller relationship with the small processor, in court it was attempting to prove that it was in essence the employer of the disabled workers. . . . Thus, in a situation like this, it is clear that the strict but limited employer's liability of workers' compensation is not as strong an incentive to prevention as the threat of full damages.[11]

Imposition of Federal Standards

John F. Burton, Jr., a professor at Cornell University and the former Chairman of the National Commission on State Workmen's Compensation Laws, testified in 1978 before the Labor Subcommittee of the Senate Committee on Human Resources that he supported Federally-legislated standards for workers' compensation. His logic for this position was the lack of improvements in state workers' compensation systems between 1975 and

[6] **Report of the National Commission on State Workmens' Compensation Laws** (Washington, D.C.: Government Printing Office, 1972), pp. 35-39, cited in Robert J. Paul, "Workers' Compensation — An Adequate Employee Benefit?" **Academy of Management Review** (October 1976): 114.

[7] Ibid., p. 116.

[8] Ibid., p. 119.

[9] James Robert Chelius, **Workplace Safety and Health: The Role of Workers' Compensation** (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977), p. 11.

[10] Wisconsin State Department of Labor, Industry, and Human Relations, **Inspection Effectiveness Report** (1971), cited in Ibid., p. 8.

[11] Ibid., p. 66.

1978 and the fact that the average state was in compliance with fewer than 12 of the 19 essential recommendations of the national commission. He concluded that

> these various developments since 1972 — the impressive but generally inadequate spurt of state reforms from 1972 to 1975 and the virtual stagnation of reform since then, plus the widening of cost differences among the states — make the case for Federal standards even more compelling now than in 1972. The states have now received twice the amount of time recommended by the national commission to allow them to make their laws adequate and equitable. I no longer believe it is possible to maintain the pretense that the states can solve the deficiencies in their laws without Federal assistance.[12]

Professor Burton has also been concerned with permanent partial disability payments, particularly with regard to the widening differentials in payments between the states and whether or not such payments reflect wage losses. In a 1978 speech before the annual meeting of the International Association of Industrial Accident Boards and Commissions, he pointed out that the various systems for compensating permanent partial disability injuries were confusing, controversial, and troublesome. Based on his research dealing with wage losses and compensation payments in 1968 permanent partial disability cases in California, Florida, and Wisconsin (benefits paid by major category ranged between 41 and 724 percent of lost wages), he concluded that

> as divergent as these replacement rates are among the several male samples in the three states, the ability of the state programs to distribute benefits to those workers with actual wage losses is even less impressive when the samples are disaggregated to show the results for groups of workers who are similar in age, type and severity of injury, and administrative procedure used to provide the benefits.[13]

He felt that standard disability ratings based on experience should be used to calculate permanent partial disability payments. He called these permanent disability benefits Type I benefits.

Professor Burton also called for the payment of Type II benefits if wage losses were still being experienced after the payment of Type I benefits had expired. To provide a strong incentive for the injured worker to continue working, Burton recommended that Type II benefits equal 80 percent of the gap between actual earnings and 80 percent of the worker's wage before he was injured. (This has become known as "The 80-80 Plan.") Burton's ideas with regard to permanent partial disability payments were the intellectual underpinnings of the reform plan adopted in Florida in 1979. This plan and preliminary results are discussed in a later section of this article.

THE COST-BENEFIT EQUATION

While almost all thought benefit levels needed to be improved substantially from 1970 levels, it might now be argued that benefits are too generous and do not always promote a prompt recovery and/or quick return to work. It could be argued that too much of the workers' compensation dollar is spent in making benefit payments in minor injury cases.

Compensation Benefits[14]

Table 1 contains data on total workers' compensation benefits in South Carolina during the 1970-'71 and 1979-'80 periods. (More current data were not available at the time of writing.) It is interesting to note that total compensation benefits increased 279 percent between 1970-'71 and 1979-'80 from $18.2 million to $69.0 million. Over the same time period the number of annual cases increased 58 percent, while the average cost per case increased 139 percent. This increase in cases was due, in large part, to the industrial growth of South Carolina.

The cost increases per case between 1970-'71 and 1979-'80 do not seem unreasonable since the maximum weekly benefits rose from $50/week to $197/week, while maximum compensation in death and permanent total disability cases rose from $12,500 to $98,500. However, key questions with regard to the distribution of benefit dollars still remain to be answered.

Table 2 shows compensation payments in South Carolina for the 1970-'71 and 1979-'80 periods. Several items are worthy of note. The first is that death cases increased at a much less than average rate. Second, the absolute number of disfigurement payments for scarring declined substantially after the legislature changed the law to limit such payments somewhat.

[12]John F. Burton, Jr., "Statement on S.3060, The National Workers' Compensation Standards Act of 1978 before the Labor Subcommittee of the Senate Committee on Human Resources," 22 September 1978, p. 5.

[13]John F. Burton, Jr., "Wage Losses from Work Injuries and Workers' Compensation: Shall the Twain Never Meet?" paper presented at the 64th Annual Convention of the International Association of Industrial Accident Boards and Commissions, Quebec City, Quebec, 12 September 1978, p. 11.

[14]South Carolina Industrial Commission, **Annual Report(s)** 1970-'71 and 1979-'80.

TABLE 1. Total Workers' Compensation Benefits in South Carolina, 1970-'71 and 1979-'80

Year	Cases	Compensation Payments	Medical Costs	Average Compensation Cost	Average Medical Cost
1970-'71	72,379	$11,201,101	$ 6,964,646	$155	$ 96
1979-'80	114,459	47,077,247	21,878,795	411	191

Source: South Carolina Industrial Commission, **Annual Report(s)**, 1970-'71 and 1979-'80.

The last comment on the data in Table 2 is that benefit payments for minor cases seem to be consuming a larger share of the compensation dollar. This should be the cause for some concern. When 1970-'71 data are compared with 1979-'80 data, permanent partial disability benefit payments — less those for dismemberment — and temporary total disability benefit payments consumed 57.9 percent of total compensation benefits and medical benefits paid in the latter period and 48.2 percent in the former. (If disfigurement payments are added, the total climbs to slightly over 60 percent.) This change raises some questions with regard to the equity and efficiency of the allocation of benefit dollars.

TABLE 2. Workers' Compensation Paid in South Carolina, 1970-'71 and 1979-'80

Type of Payment	Incidents	Compensation Payments	Average Cost	Percentage of Total Amount
Death				
1970-'71	135	$ 1,170,162	$ 8,668	6.4%
1979-'80	141	3,423,774	24,282	5.0
Dismemberment				
1970-'71	207	291,298	1,407	1.6
1979-'80	607	2,328,636	3,836	3.4
Disfigurement				
1970-'71	3,169	983,922	310	5.4
1979-'80	1,733	1,431,850	826	2.1
Permanent Partial				
1970-'71	3,562	5,474,504	1,537	30.1
1979-'80	5,814	24,052,844	4,137	34.9
Temporary Total				
1970-'71	9,704	3,281,215	338	18.1
1979-'80	15,980	15,840,143	991	23.0

Source: Same as Table 1, this article.

Note: South Carolina does not totally use the standard categorization system of the National Council on Compensation Insurance.

While the number of permanent partial disability and temporary total disability cases increased at about the same rate as the number of workers' compensation cases, the average cost in permanent partial and temporary total disability cases increased substantially as a result of increasing benefit levels. Average compensation payments in a permanent partial disability case during 1970-'71 were $1,567; during 1979-'80, they were $4,137, an increase of 164 percent. Average compensation payments in temporary total disability cases increased 193 percent during the same period, and average benefits rose from $338 per incident to $991 per incident. Perhaps some reform should be considered.

Table 3 contains data on the medical costs in compensation cases. Although doctors' fees are a continued topic of consternation in many quarters, medical benefits did not seem to rise faster than benefit costs. Medical benefits in cases involving compensation payments increased 247 percent, while the number of such cases increased 45 percent between 1970-'71 and 1979-'80. Average medical benefits per case where compensation was awarded increased 140 percent, from $268 to $644.

Medical costs in medical cost only cases increased even less than medical costs in benefit cases. Between 1970-'71 and 1979-'80, total medical costs in such cases increased 153 percent, the number of cases increased 41 percent, and the average cost increased 78 percent from $37 per case to $66 per case. Total medical costs decreased from 38.8 percent of total workers' compensation benefits in 1970-'71 to 31.8 percent in 1979-'80.

Employer Costs

Table 4 contains data on manual workers' compensation rates for 30 selected job classifications. (Manual rates, where they apply, are assessed per $100 of weekly payroll.) These jobs were selected because of their spread across industry categories and because they represented significant job categories in South Carolina. The data presented are rates established by the National Council on Compensation Insurance, an insurance industry sponsored group that establishes manual rates for most states including South Carolina. These rates went into effect April 1, 1971, and April 1, 1980, respectively.

While these data will, in general, give some indication of the direction, and possibly the magnitude, of increases in workers' compensation costs to employers, an explanation of what manual rates are will point out some limitations of the use of these kinds of data. Manual rates are the rates paid by new and small firms for workers' compensation insurance. (Larger, older firms generally pay on the basis of some form of experience rating derived largely from their past accident records.)

TABLE 3. Medical Costs in Workers' Compensation Cases in South Carolina, 1970-'71 and 1979-'80

Type	Incidents	Medical Costs	Average Cost	Percentage of Total Cost
Compensation Cases				
1970-'71	16,777*	$ 4,502,542	$268	24.8%
1979-'80	24,275	15,626,741	644	22.7
Medical Only Cases				
1970-'71	67,221	2,462,104	37	14.0
1979-'80	94,533	6,252,054	66	9.1

*This total, plus the number of medical only cases, will exceed the total number of cases since some compensation cases fall into more than 1 category. The dollar amount of medical benefits paid was determined by subtracting medical benefits in medical only cases from total medical benefits in all workers' compensation cases.

Nevertheless, the data presented are indicative of changes in workers' compensation costs to employers in South Carolina, if the results are interpreted very carefully. The first item to note is that there is a tremendous difference in manual rates between occupational classifications (see Table 4). For the 30 selected classes, the manual rates vary between $0.30 for college and school staff and professional employees to $21.07 for logging and lumber. Thus, since accident experience does vary tremendously between industry groups, different employers are apt to be more or less concerned about workers' compensation costs. For such industries as construction, longshoring, chemicals, and logging and lumbering, workers' compensation costs are of major concern.

The next item to note is that for 29 of the 30 classifications studied, manual rates increased substantially between April 1, 1971, and April 1, 1980. (The rate of change is somewhat understated since manual rates were assessed in 1971 on the first $300 of weekly pay per employee. There were increases of over 100 percent for 6 groups and of over 60 percent for 14 groups. Increases between 40.0 and 59.9 percent occurred in 3 groups, between 20.0 and 39.9 percent in 4 groups, and between 0.0 and 19.9 percent in 6 groups. One group, concrete construction, experienced a manual rate decrease of 12.2 percent. These percentage changes are important to note since monies collected by insurance companies go up automatically where firms pay the manual rate since collections are a percentage of wages paid.

Again, this author wishes to reiterate that while these data may well be indicative of trends in workers' compensation costs in South Carolina, they do not present a totally accurate picture of what is happening to all employers since these rates are not paid by all employers. (A previously unmentioned compounding factor is that many firms in South Carolina self-insure their workers' compensation risk and thus their experience does not enter into the National Council on Compensation Insurance's rate making calculations.) However, on balance, these data do reflect what the South Carolina Industrial Commission's data on benefits paid reflect, i.e., that workers' compensation costs to employers are increasing, probably in large part because benefit levels have increased substantially. In many instances it is possible that rates are increasing faster than wages, that is, that workers' compensation costs to employers are increasing as a percentage of wages.

"REFORMS" IN FLORIDA

In Florida in 1979 a number of groups called for substantial changes in Florida's new workers' compensation laws. (The original act had been repealed in 1978.) Governor Robert Graham said that the cost of workers' compensation was holding down economic development because costs were keeping some firms from moving to Florida. Insurance carriers also were unhappy because profits from selling workers' compensation insurance were inadequate. In some cases, substantial losses had been incurred.

Management charged that costs were too high, while unions thought benefits were too low. The preface to the "1979 Workers' Compensation Law" succinctly states why many felt "reforms" were needed.

1. Rates were up 228 percent since 1970.
2. [Insurance] companies lost $205,000,000 [on workers' compensation insurance] between 1973 and 1977.
3. 40 percent of Florida's workers' compensation policyholders are in the Assigned Risk Plan.
4. Florida's rates are sixth highest in the country; benefit levels are 36th.
5. Florida claim costs are higher than in other states.
6. [Florida's] system did not encourage return of injured persons to productivity.[15]

The Florida Association of Insurance Agents was largely responsible for some of the changes made. That association sponsored a study of 1977 closed claim cases in Florida, Wisconsin (which was supposed to have a good administrative system), and Alabama (a neighboring state). The results of the study were presented in a number of

[15]State of Florida, "Workers' Compensation Law," 1979, p. 1.

TABLE 4. A Comparison of Manual Rates for Selected Industries and Jobs in South Carolina, 1971 and 1980

Class Code	Title	Rate 4/1/'71	Rate 4/1/'80	Percentage Increase
2211	Cotton Batting, Wadding, or Wastage Mfg.	$ 4.09	$ 4.25	3.9%
2220	Cotton Spinning and Weaving	.93	1.60	72.0
2286	Wool Spinning and Weaving	1.36	2.64	94.1
2305	Textile Fiber Mfg.	.53	.85	60.4
2361	Hosier Mfg.	.30	.72	140.0
2362	Knit Good Mfg.	.95	1.83	92.6
2402	Carpet and Rug Mfg.	1.30	1.88	44.6
2417	Cloth Printing	1.05	2.44	132.4
2501	Cloth Mfg.	.60	.69	15.0
2702	Logging or Lumbering	9.23	21.07	128.3
2710	Sawmills	4.89	8.52	74.2
2714	Veneer Mfg.	3.29	4.07	23.7
2841	Woodenware Mfg.	1.91	3.50	83.2
2883	Furniture Mfg. — Wood	3.08	3.09	.3
3179	Electrical Apparatus Mfg.	.81	1.87	130.9
3515	Textile Machinery Mfg.	1.73	2.32	34.1
3643	Electrical Power or Transmission Equipment Mfg.	1.28	1.35	5.5
4021	Brick or Clay Products Mfg.	2.83	4.12	45.6
4279	Paper Goods Mfg.	.71	1.66	133.8
4670	Cottonseed Oil Mfg.	5.08	5.54	9.1
5040	Iron or Steel Erection	11.25	17.74	57.7
5213	Concrete Construction	4.25	3.73	-12.2
5538	Sheet Metal Work Erection	3.58	4.99	39.4
5645	Carpentry-Private Residences	3.00	4.90	63.3
7720	Policemen	2.05	3.31	61.5
8006	Fruit or Vegetable Stores	1.05	1.96	86.7
8039	Department Stores	.62	.67	8.1
8391	Automobile Sales or Service Agencies	1.75	2.38	36.0
8868	Colleges or Schools	.15	.30	100.0
8883	Professional Employees	.32	.53	65.6

Source: National Council on Compensation Insurance.

conferences held in early 1979, the first being presented before the Florida legislature.

This study found that both average medical costs and average (compensation) payments in lost time cases were higher in Florida than in the other 2 states: $1,559, compared with $791 for Alabama and $542 for Wisconsin, and $2,245, compared with $778 for Alabama and $921 for Wisconsin, respectively. Maximum weekly benefit levels, however, were $126 in Florida, $110 in Alabama, and $196 in Wisconsin. Of perhaps even more significance in the eyes of the Florida Association of Insurance Agents, was the discovery that the percentage of total compensation payments spent in permanent partial disability cases was nearly 70 percent in Florida, but only around 30 percent in Alabama and 18 percent in Wisconsin. Permanent partial disability cases constituted about 30 percent of lost time cases in Florida and consumed about 65 percent of total compensation benefits. In Alabama and Wisconsin, permanent partial disability cases consumed less than 40 percent of total benefit dollars and constituted about 10 percent of lost time cases.[16]

[16]Florida Association of Insurance Agents, **Workmens' Compensation Wage-Loss to Reform Conferences** (16 January-9 February 1979), pp. 15 and 21-26.

The crux of the problem, according to Philip F. Asher, Florida's former Secretary of Commerce, State Treasurer, and Insurance Commissioner, lay in the permanent partial disability area.

> In 1977, there were 400,000 workmen's compensation cases handled in Florida. Of these, 14,000 were permanent partial disability - - 3 percent of the total caseload. But these 3 percent accounted for nearly 50 percent of the dollars paid out in benefits.[17]

In May 1979, Governor Graham signed the new workers' compensation law into effect. Maximum weekly compensation benefits payments increased to $196, and compensation payments in permanent partial disability cases — except in very severe cases — were eliminated, after maximum improvement was reached, unless fairly substantial wage losses resulted. Workers' compensation premium rates were reduced across the board by 15 percent. A summary of the major wage loss provisions of the law follows.

> Florida workers injured on the job will no longer receive compensation beyond that paid for the time they are forced off the job unless they can prove they've lost wages in their post injury work due to their injury. That means injuries won't be paid for, except in three extreme cases.
>
> Instead, workers with permanent partial disabilities will have to show that they can't make 85 percent of what they did before they were hurt. Those losing at least 15 percent of their pre-injury earnings when they are "as recovered as they can be" will get 95 percent of the difference between 85 percent of pre-injury wages and their new wages.[18]

Other major changes included "beefing up" administration of the act, putting caps on insurance carrier profits on workers' compensation insurance, forcing claimants to pay their attorneys' fees, and making employers responsible for rehabilitation.

Although it is too early to tell whether Florida has solved its "workers' compensation problem," some interesting trends may be surfacing. The first is that benefits have gone up substantially while costs have not. Weekly maximum compensation payments rose from $119 in 1977 to $211 in 1980, while insurance rates went up an average of 8 percent in 1979 and 1980 because of inflation offsets.[19] However, an additional reduction of about 11 percent went into effect in 1981.

The second change has been a pronounced decrease in the significance of permanent partial disability payments. This move is probably a result of the adoption of the wage loss approach. Permanent partial disability compensation payments declined to 39.2 percent of the costs in 1978 and 21.5 percent in 1979.

Perhaps even more significant is the drop in the number of permanent partial disability claims in proportion to the number of lost time cases. Permanent partial disability claims dropped from approximately 30 percent of lost time cases in 1977, to 24 percent in 1978, to 7 percent in 1979.[20] Some other states, including Illinois and Oregon, have expressed an interest in studying the possibility of implementing some form of wage loss system.

The Florida system will be studied by several states but probably will not prove to be a cure-all. As William G. McCue, Jr. of the Florida Association of Insurance Agents pointed out at the November 12, 1980, meeting of the CPCU Society of South Carolina,[21] no system installed in one state should be copied in another state without careful study. An examination of permanent partial disability payments in South Carolina may be desirable at some point in time. There is no doubt that some parts of this state's disability schedule, such as that concerning the back, have caused conflict and concern over the years. It does not appear at this time that the "permanent partial disability problem" is quite as serious in South Carolina as it was in Florida. South Carolina Industrial Commission data revealed that over the period 1979-'80, compensation payments for "loss of use and permanent partial" injuries equaled 51.1 percent of compensation payments to injured employees and 34.9 percent of total compensation benefits. These cases constituted 24.0 percent of compensated lost time "incidents."[22] It is generally acknowledged, however, that workers' compensation rates in South Carolina are either third or fourth lowest in the nation.

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[17]Ibid., p. 6.

[18]"Florida Tests Wage Loss Plan in New Workers' Comp Laws," **Business Insurance** (29 May 1979).

[19]Data furnished by Florida Association of Insurance Agents.

[20]Ibid.

[21]The intellectual beginning of this article was an address delivered by this author at this meeting. The writer wishes to express his thanks for the opportunity to present his thoughts.

[22]South Carolina Industrial Commission, **Annual Report**, 1979-'80, p. 29.

CONCLUDING REMARKS

Because workers' compensation is a complex system with multiple objectives, problems related to it are never totally resolved, controversy surrounding it never eliminated, and emerging problems in almost constant need of careful, impartial scrutiny. In South Carolina in the 1970's, considerable progress was made in the form of liberalization of benefits and broadening of coverage to some previously exempted industries and many small firms. In addition, the scope of the Second Injury Fund — which limits liability for employers employing once-injured and/or handicapped workers — was extended, and in 1979-'80, the agency disbursed over $1.5 million to employers and their insurance carriers.[23]

However, as benefits increased, the question of trade-offs and the cost-benefit equation again arose. Further, the matter of the coverage of occupational diseases, particularly byssinosis ("brown lung disease"), has arisen. In January 1981 alone, by this author's count, 5 articles dealing with workers' compensation appeared in the **Columbia State.** Among the areas of controversy discussed were: variations in compensation rates and coverage between states; a South Carolina byssinosis case being appealed to the State Supreme Court by an employer; the impact of Federal cotton dust standards on occupational diseases and the profitability of the textile industry; and the access of employees to company medical records.

In general, many employee groups tend to argue that byssinosis is a disease, that it should be compensated for, and that employers should remove cotton dust from the air to the fullest extent possible. On the other hand, many employers and employer groups question the extent to which byssinosis is a disease and point out the difficulties of diagnosing it and separating its effects from other factors such as personal health habits and age. They tend to want compensation limited to those cases in which it is proven that byssinosis has caused permanent and total disability. They feel that byssinosis should be compensated for only for its marginal impact after all other factors are taken into account.[24]

Other occupational disease areas, such as hearing loss, could also become controversial in the future. Considerable research, discussion, and statesmanship will be needed to resolve the many difficult issues that could face the workers' compensation system.

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[23]South Carolina Second Injury Fund, **Report**, 1979-'80, p. 8.

[24]For a presentation of many of these arguments, see: "Workers' Compensation: A Question of Fairness," North Carolina Textile Manufacturers' Association (Raleigh, N.C.).

The Employer and Employment Laws

By James J. Baldwin, LL.D.

The Employer and Employment Laws is a regular feature. Suggestions and inquiries by readers are invited.

THE CONTINUED ADHERENCE TO THE TERMINABLE-AT-WILL RULE IN SOUTH CAROLINA

Since the late nineteenth century, courts have usually recognized that employees hired for an indefinite duration are subject to termination at the will of their employers. Under this "terminable-at-will" doctrine, employers could terminate employees not having written contracts for a specified term for a good reason, a bad reason, or even no reason. It made no difference under the doctrine that an employee was classified as "permanent." Since the employee was considered to have complete freedom in that situation to quit whenever he or she wanted, without any reason, courts reasoned that the employer should have the correlative right to terminate the relationship whenever he wanted, also without any reason. The doctrine essentially reflected the laissez faire economic theory from which it had sprung, with courts refusing to second-guess an employer's reasons for unilaterally ending his working relationship with his employees.

Recent statutory changes have limited application of the doctrine in certain situations. For example, the National Labor Relations Act has proscribed employers from terminating employees when the apparent reason is to chill protected, concerted activity; and civil rights statutes have forbidden terminations apparently based on such

impermissible factors as race, sex, national origin, religion, or age. Other limitations have been imposed by collective bargaining agreements providing for discharges only for "just cause," and for grievance systems, under which employees can question discharge decisions. Until recent years, however, the doctrine has not otherwise been circumscribed and has been widely followed by the vast majority of courts.

South Carolina courts historically have adhered to the terminable-at-will doctrine. In the early case of **Johnson v. American Railway Express Co.,**[1] the South Carolina Supreme Court acknowledged that

> [t]here is no doubt of the correctness of the general proposition that if an employment is for an indefinite term, and each party may terminate it at his pleasure, the discharge even without cause will afford the employee no ground of complaint.[2]

Subsequently, the court in **Orsini v. Trojan Steel Corp.**[3] ruled that characterizing the employee's employment as "permanent" in no way changed this rule. The court stated that

> [t]he general rule is, that "permanent employment" means steady employment, a steady job, a position of permanence, as contrasted with a temporary employment or a temporary job. Ordinarily, where there is no additional expression as to duration, a contract for permanent employment implies an indefinite general hiring, terminable at will.[4]

Recent developments in some states, however, raise the question of how much longer South Carolina and other states adhering to the terminable-at-will doctrine will continue to do so. In light of severe criticism of the doctrine by numerous commentators,[5] courts in some states have created exceptions to the doctrine or have completely abandoned it.

The major exception has been to refuse application of the doctrine when to do so would allow an employer to impede the operation of "public policy." This approach first appeared in **Petermann v. International Brotherhood of Teamsters,**[6] a California case. There the court allowed Petermann, an at-will employee of the union, to contest his discharge when he claimed he had been fired for refusing to lie in an investigative hearing conducted by the state legislature. The court found an exception to the terminable-at-will doctrine, observing that "the right to discharge an employee under . . . a contract of [indefinite duration] may be limited . . . by considerations of public policy."[7] Such considerations were found to exist in Petermann's case because the union's action had penalized Petermann for refusing to break the law by perjuring himself before the legislature.

This "public policy" exception also has been applied to forbid discharges seen as retaliatory actions against employees who pursue some right to which they are entitled under state law. For example, in **Frampton v. Central Indiana Gas Co.,**[8] the Indiana Supreme Court allowed an employee who claimed she had been fired for pursuing a worker's compensation claim to sue her employer for wrongful discharge. The court reasoned that firings of that sort contravened public policy.

The courts that have completely rejected the terminable-at-will doctrine generally have done so by implying the existence of a contractual duty on the part of employers to discharge employees only where some legitimate reason for so doing exists. For example, in **Monge v. Beebe Rubber Co.,**[9] the New Hampshire Supreme Court saw public policy as imposing on employers an obligation to terminate employees only in good faith. The court reasoned that

> [i]n all employment contracts, whether at will or for a definite term, the employer's interest

[1] 161 S.E. 473 (S.C. 1931).

[2] Id. at 475-76. See also **Parker v. Southeastern Haulers, Inc.**, 41 S.E. 2d 387, 393 (S.C. 1947).

[3] 64 S.E. 2d 878 (S.C. 1951).

[4] Id. at 880, quoting **Malever v. Kay Jewelry Co.**, 255 S.E. 2d 436 (N.C. 1943).

James J. Baldwin is a partner in the law firm of Haynsworth, Baldwin and Miles which specializes in labor relations law. Baldwin is an authority on such matters as union-management relations, problems occurring under the Occupational Safety and Health Act, the Fair Labor Standards Act, and legal questions arising under the various civil rights laws and regulations. In the field of labor law and civil rights law and regulations, he has won an eminent reputation.

[5] See, e.g., Blades, "Employment at Will vs. Individual Freedom: On Limiting the Abusive Exercise of Employer Power," 67 **Colum. L. Rev.** 1404 (1967); Peck, "Unjust Discharges in Employment: A Necessary Change in the Law," 40 **Ohio St. L. J.** 1 (1979).

[6] 344 P. 2d 25 (Cal. App. 1959).

[7] Id. at 27.

[8] 297 N.E. 2d 425 (Ind. 1973).

[9] 316 A. 2d 549 (N.H. 1974).

> in running his business as he sees fit must be balanced against the interest of the employee in maintaining his employment, and the public's interest in maintaining a proper balance between the two . . . . We hold that a termination by the employer of a contract of employment which is motivated by bad faith or malice or based on retaliation is not in the best interest of the economic system or the public good and constitutes a breach of the employment contract . . . . Such a rule affords the employee a certain stability of employment and does not interfere with the employer's normal exercise of his right to discharge, which is necessary to permit him to operate his business efficiently and profitably.[10]

Based on such reasoning, the court ruled that Monge could recover against her employer when the jury found she had been terminated for not being "nice" to her foreman.

Similar reasoning also led the Massachusetts Supreme Court in **Fortune v. National Cash Register Co.**[11] to uphold an award in favor of an employee who showed that his employer had terminated him to avoid full payment of commissions earned by him on a major scale. There the court found an "implied covenant of good faith and fair dealing" in the contractual relationship between an employer and an employee. It ruled that this covenant had been breached by the employer's action.

It is important to recognize the varying effect these two approaches have on an employer's ability to make termination decisions free from judicial intervention. Where the public policy exception to the terminable-at-will doctrine is all that is recognized, the effect is not that great. That exception apparently would apply only in those cases in which the operation of some clear public policy is impeded, such as the need to have truthful testimony in legislative hearings as in the **Petermann** case, or where the employer's discharge of an employee is seen as retaliating against the employee for pursuing a right provided by law, such as filing a worker's compensation claim.

On the other hand, where the duty of "good faith and fair dealing" is recognized as abrogating the terminable-at-will doctrine, the impact is significant. A determination of what satisfies the standard of "good faith and fair dealing" is obviously very subjective. Such a vague standard is an open invitation to courts and juries to second-guess an employer about the fairness of his termination decision or about the employer's motivation underlying such decisions. The finality of any termination decision under those circumstances would be dubious at best. This is particularly true in today's litigation-happy society.

Thus far, however, these theories have not altered the South Carolina courts' approach to such cases. In the only case in which it has considered these new theories, **Hudson v. Zenith Engraving Co.,**[12] the South Carolina Supreme Court declined to accept them. Hudson claimed he had been terminated because of a disabling injury and because he had pursued a worker's compensation claim. He contended that he should be allowed to sue for wrongful discharge on the grounds (1) that he had an implied commitment by the company for continued employment in light of previous accommodations he had received when injured, and (2) that discharging him for pursuing a worker's compensation claim violated public policy. The supreme court rejected these arguments when Hudson appealed from the trial court's dismissal. While the court acknowledged that a minority of jurisdictions had recognized a public policy exception to the terminable-at-will rule, it refused to adopt that viewpoint in this case, holding that the company had "exercised only its legal right to terminate Hudson, who was an employee at will."[13] It thus appears that, for now, South Carolina courts still are comfortable with the terminable-at-will rule. How long they will continue to be is unclear, though, given the increasing expressions of discontent with the rule that are present in recent commentaries[14] and court decisions.

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[10]Id. at 551-52.

[11]364 N.E. 2d 1251 (Mass. 1977).

[12]259 S.E. 2d 812 (S.C. 1979).

[13]Id. at 814.

[14]The South Carolina Supreme Court's continued adherence to the terminable-at-will rule recently was strongly criticized by one commentator. See "1979 Survey of South Carolina Law: Contracts," 32 **S.C.L. Rev.** 49, 54-67 (1980).

BUSINESS AFFILIATES

The Business Affiliates program of The USC-Business Partnership Foundation, chartered in 1977, is designed to attract business investment and participation in the programs of the College of Business Administration. Advantageous to both, this program benefits the business community through better prepared graduates and higher levels of professionalism of employees who participate in the graduate or continuing education programs, and the college through a new sense of relevancy and realism from corporate and business involvement.

Membership funds supplement university appropriations and provide for faculty development, student aid, and program and research support, as well as development of a professional business library within the college. It is the foundation's hope that this will prove to be an ever-expanding partnership program for the college and the business community.

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Bottom Lines

By James B. Edwards, Ph.D., C.P.A., C.M.A., C.I.A., C.D.P.

Bottom Lines is a regular feature that brings attention to practical business taxes and accounting. Suggestions and inquiries by readers are invited.

INSURANCE-KEYED TAX BENEFITS

Insurance-keyed tax benefits often are overlooked opportunities in the closely held corporation. Perhaps it is time to review the tax angles of insurance with your tax advisor. You may wish to consider the following:

1. key-employee life insurance,
2. split-dollar life insurance,
3. group-term life insurance.

LINE ONE

A closely held corporation needs life insurance on a key employee in order to indemnify itself against losses it will incur until a successor can successfully replace the departed employee. The corporation should obtain pay for, and be the beneficiary-owner of, the policy.

The Internal Revenue Code prohibits the deduction of premiums for insurance on the life of any employee where the corporation is policy owner, premium payor, and beneficiary of the policy. However, when the corporation receives the proceeds at the death of the employee, they are excluded from taxable income — they are free from income tax. The employee will not be taxed on the premiums paid by the corporation even if the employee is a controlling stockholder of the corporation.

The amount of insurance carried on the life of a key employee should be determined by the loss that will likely occur upon the departure of the key employee. Such an amount would encompass potential decreased sales, increased production and/or operating expenses, and replacement costs.

Dr. James B. Edwards, C.P.A., C.M.A., C.I.A., C.D.P., and Professor of Accounting in the College of Business Administration at The University of South Carolina, earned his B.B.A., M.B.A., and Ph.D. Degrees in Accounting at the University of Georgia. A specialist in A.I.C.P.A. tax courses, Dr. Edwards has organized and taught a number of professional development programs for the National Association of Accountants, including the first C.M.A. review course in the United States. The winner of 6 national writing awards, he is the author of numerous articles and papers for leading journals and professional organizations, and is a popular public speaker and a very active member/officer of the American Institute of Certified Public Accountants, the American Accounting Association, the National Association of Accountants, the Planning Executives Institute, and the American Management Association, among others.

LINE TWO

A serious estate planning problem arises when the principal asset of a person is the stock of a closely held corporation. Without proper planning, the executor will have the problem of paying taxes and other costs incident to the transfer of the estate. Without sufficient cash on hand, the death taxes must be paid through the liquidation of estate assets — primarily, the closely held corporation.

Most often, the best way to provide liquidity is through redemption by the corporation of part of a decedent's shares. However, care must be exercised to avoid having a partial redemption treated as a dividend by the Internal Revenue Service. This produces undesirable income tax effects on the deceased's estate.

A Section 303 redemption should be considered. In this case, the proceeds won't be treated as dividend taxable as ordinary income as long as the stockholder's share in the business is more than 50 percent of his adjusted gross estate. If he owns an interest in more than one corporation, the values may be totaled, provided he owns more than 75 percent of the stock in each corporation.

Assuming that a successful Section 303 redemption can be accomplished, the corporation could acquire the funds for the partial stock redemption from the proceeds of a key-employee (also stockholder) insurance policy. This eliminates the drain from working capital of the corporation when operating assets must be used to liquidate the stock.

LINE THREE

An employer may make a voluntary death benefit payment to a deceased employee's beneficiary or beneficiaries of which the first $5,000 is excluded from taxable income. To qualify, the deceased employee must have had no guaranteed right to the payment received as a death benefit. The $5,000 is the maximum excludable benefit for all payments. Payments to more than one beneficiary will require that the $5,000 exclusion be allocated among them in accordance with the fair market value of the benefits received.

LINE FOUR

Split-dollar insurance can be used to provide large insurance protection at small cost. The corporation pays the part of the premium corresponding to the annual increase in cash surrender value, and the covered employee pays the balance. In the early years, the employee's share of the annual premium is high. However, it decreases proportionately as the annual cash surrender value increases.

The named beneficiary will receive the policy's proceeds minus the cash surrender value. The corporation will receive the cash surrender value, either at the insured's death or early termination of the policy. In fact, the corporation can usually terminate the policy at will and get back an amount equal to all premium contributions.

The corporation has provided an attractive fringe benefit. Cost is minimal, since the corporation will eventually recover its investment. The true cost can be measured as the lost potential earnings, after taxes, on the premiums contributed by the corporation. Even on this point, the corporation could borrow against the cash surrender value and reinvest to generate a higher yield. This approach would limit cost to the policy loan interest charge. If the corporation does not borrow any part of four of the first seven premiums, that interest is fully tax deductible.

In addition, there are no discrimination rules. The corporation can work this deal with anyone it chooses. It does not have to cover everyone.

The employee has large insurance protection at small cost. His cost is the sum of premium contributions and increased taxes from the insurance-derived economic benefit of Revenue Ruling 64-328, 1964-2 CB 11. He also has a hedge against uninsurability of some later date — a source of post-retirement insurance protection.

Since the pure insurance protection of a split-dollar policy decreases as the cash surrender value increases, added coverage may be desirable. **SUGGESTION:** Use policy dividends to buy annual renewable term insurance equal to the cash value. The employee maintains the full face coverage of the underlying policy and the corporation gets its total premium investment (cash value) back.

LINE FIVE

Another attractive insurance-keyed fringe benefit for the closely held corporation is group-term life insurance. The first $50,000 worth of group-term life insurance coverage is tax-free to the covered employee. The employee is taxed on the company-paid coverage in excess of $50,000, minus any contributions the employee made to the premiums. Of course, the corporation gets a full tax deduction for the premiums paid by the corporation. The corporation is not the beneficiary-owner of the policy.

BEYOND THE BOTTOM LINE

You may need to consult with your insurance advisor in addition to your tax advisor. There are many income tax angles to arranging insurance plans. Some of them will be developed in this column in the future. This edition was designed to attract your attention to the subject area.

* * *

Much more to come in the future . . . some practical matters will be explored in depth . . . others will merely be identified . . . please share your ideas, questions, answers, etc. — just send them to Dr. James B. Edwards, College of Business Administration, The University of South Carolina, Columbia, South Carolina 29208.

Education, Economy Inseparable Forces in South Carolina's Past and Future

By Dr. Charlie Guy Williams

Nearly a quarter of a century ago, in calling for what he hoped would be a "clean flood of knowledge" that would eventually overcome social and economic hardships, President Dwight D. Eisenhower said,

> It is unwise to make education too cheap. If **everything** is provided freely, there is a tendency to put no value on **anything.** Education must always have a certain price on it, even as the very process of learning itself must always require individual effort and initiative.

Dr. Charlie Guy Williams is South Carolina State Superintendent of Education. He earned a B.S. Degree at Newberry College in 1950, and a Master's Degree in Public School Administration and a Ph.D. Degree in Elementary Education at The University of South Carolina in 1954 and 1966, respectively. Dr. Williams has served the public school system in South Carolina as a teacher, coach, principal, and administrator for over 25 years. He has also taught in the evening and summer sessions at Columbia College, USC, and Appalachian State University. During 1967 and 1968, he served as a professional consultant to the Joint Committee of the South Carolina General Assembly to Study Public Education in South Carolina. Dr. Williams joined the South Carolina Department of Education in 1967 as Director of the Division of Research and Planning. In July 1968, he was appointed Deputy Superintendent for Instruction and served in that position until he was inaugurated as South Carolina's 13th State Superintendent of Education on January 10, 1979. Dr. Williams has been instrumental in developing the Gifted and Talented Program in South Carolina. He conceived and had developed the Economics Education Teaching Kit and the Reach-Teach Newspaper Reading Program. He also served as a member of the Legislative Task Force to Study Minimum Competency Testing. Dr. Williams is Administrative Officer to the State Board of Education and ex-officio member of the Educational Television Commission and the State Board for Technical and Comprehensive Education. He is also an ex-officio member of the Boards of The Citadel, The University of South Carolina, Winthrop College, Youth Services, the School for the Deaf and the Blind, and the Wil Lou Gray Opportunity School; and a member of the Education Commission of the States.

From the time the Mayflower landed at Plymouth Rock, Americans have believed firmly in two guiding principles: (1) that hard work can lead to success, and (2) that education brings individual advancement. President Eisenhower was putting both of these principles into play when he said that an education obtained too easily may not be valued, or valuable.

The American schoolhouse for generations was something taken for granted, like the cemetery on the hill. Both were there, quietly serving and reflecting their communities. Both received reverent gestures now and then, but they were always there, independent and religiously respected. For the schoolhouse, most of this has changed.

Gone is the day of blind reverence for one of America's most cherished institutions. The events of the last 25 years have played an important role in shaping the public's attitudes toward the public schools. The cost of public school education, along with other goods and services, has risen as the result of expanded services, inflation, and other economic pressures.

As pollster George Gallup noted, when local residents learn through the media that some high school students are being graduated who are functionally illiterate; that national test scores are declining; and that schools are having problems with discipline, drug use, or vandalism; their predictable reaction is to relate these problems to their schools, and to question the added costs and the way the schools are being run. The overall effect of these events and forces has been to lessen the public's confidence in the public schools. As one contemporary historian, Henry Steele Commager, has expressed, "No other people ever expected so much from their schools as the Americans; and none other was ever served as well." I am convinced that the future of South Carolina, of its people and of its economic growth, is inextricably intertwined with the common thread of education.

Daufuskie Elementary School on Daufuskie Island near Beaufort is the smallest regular public school in South Carolina, with 13 students in Grades 1-8. State law requires that a public education be provided all eligible children, regardless of any geographical boundaries. This school was the setting for author Pat Conroy's book **The Water Is Wide**, which was produced as the motion picture "Conrack."

Throughout South Carolina's history, many of our people have always been conscious of the need for education. The first free library in America was started in Charles Towne in 1698, by the General Assembly of the province, and anyone could withdraw books. Charles Towne was also the site of the first free school for Negro students in 1740, and this nation's first municipal college was chartered in the Port City in 1785. The University of South Carolina, established in 1801, became America's first educational institution supported continuously by annual state appropriations.

Our ancestors made a strong early start in education, but for the most part this was education for a select few in isolated areas across the state. Throughout much of our history, formal education for a vast majority of South Carolinians was a privilege instead of a right.

Alvin Toffler has observed that "All education springs from some image of the future. If the image of the future held by society is grossly inaccurate, its educational system will betray its young."

South Carolina's image of the future has changed radically in recent years. For a state that has historically ranked among the poorest in the nation, finding ways to increase both the economic and educational levels of Palmetto State citizens presents a dual challenge to today's leadership.

What is it like to live in South Carolina? Chances are most of us would contend that the Palmetto State is one of the most pleasant places in the nation in which to reside, but for a lot of South Carolinians that may not be true.

Consider, for a moment, that, according to the "Book of State Comparisons" (by Daniel Sprecher, Serina Press, Alexandria, Virginia, 1979), South Carolina ranks

- first among the 50 states in aggravated assaults per capita (485 per 100,000),
- first in burglaries (1,613 per 100,000),
- second in percentage of patients in mental institutions (300 per 100,000),
- third in illiteracy, with 2.3 percent of all persons over 15 years of age unable to read,
- third in deaths due to hypertension (5.8 per 100,000),
- fourth in deaths due to fire (50 per million),
- sixth in violent crime (636 per 100,000),
- sixth in murder and manslaughter, and
- seventh in percentage of people below the poverty level (17.2 percent).

South Carolina should rank lower, you think? Well, our state does. We rank

- 50th in average life expectancy (67.9 years),
- 50th in percentage of voting age population casting votes,

- 49th in licensed drivers per 1,000 (557 trailing only the state of New York), and
- 46th in college graduates per 1,000 (39).

In 1962, South Carolina ranked 48th among the states in per capita income; in 1970, South Carolina ranked 47th in per capita income; in 1975, 49th; in 1976, 47th; and in 1977, 48th. Those figures reflect the kind of bottom line most people do not like to discuss. In large measure, the public schools are a direct reflection of the public they serve.

Consider, for example, the financial effort South Carolina makes in support of the public schools. According to the 1980 edition of **Rankings of the States,** South Carolina spent $1,581 per pupil to educate this state's elementary and secondary school students. The Palmetto State's $1,581 per pupil ranks our state 46th among the 50 states and the District of Columbia. The total dollar expenditure is less than 75 percent of the national average of $2,142.

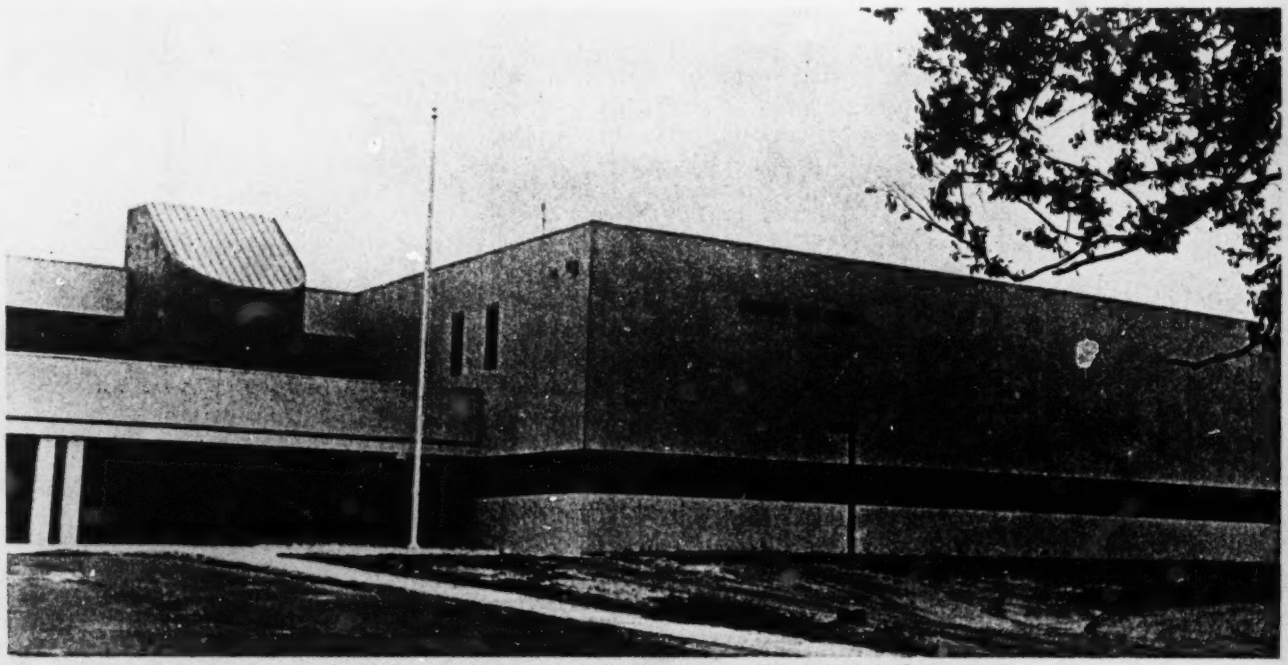
According to the latest estimates, South Carolina also ranks 46th in public school teacher salaries, paying $13,000 per year. Georgia ranks 31st with an average salary of $14,027, and North Carolina 30th at $14,335. The national average is $16,001, while the Southeastern average is $13,819.

For much of South Carolina's history, this state's image of the future was based on an economic system that centered around farms and manufacturing, which required a labor intensive work force and little demand for highly educated workers. Only recently, in the past few decades, has the active business and political leadership of South Carolina sought diligently and deliberately to alter the basic economic system of our state, and in so doing, improve the quality of life for all South Carolinians. Now, thanks to new technology and new discoveries, both in agriculture and manufacturing, we find that our state's economic base is changing, and with those changes comes the demand for a better educated, better prepared work force. To prepare South Carolina's citizens more adequately to meet these increased challenges, however, is an enormous job, one that the public schools cannot do alone.

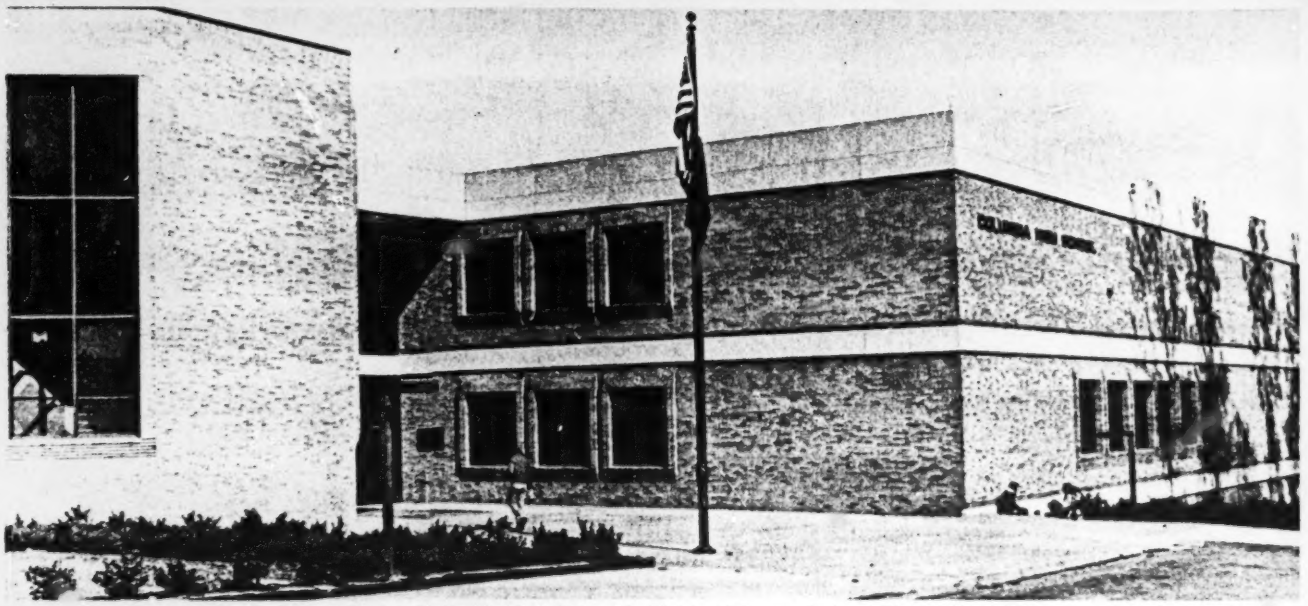
Nearly two decades ago Michael Harrington observed some of the changes in American society.

> The other America, the America of poverty, is hidden today in a way that it never was before. Its millions are socially invisible to the rest of us. The very development of American society is creating a new kind of blindness about poverty. The poor are increasingly slipping out of the very experience and consciousness of the nation.

The America about which Harrington wrote is not hidden any more. Its results are visible in decaying urban areas, in the isolated rural countryside, and in the schoolrooms of this state and nation.



One of the newest high schools in South Carolina is Swansea High, which serves 550 students in Grades 9-12.



Constructed on several different levels, Columbia High School in Richland County School District No. 1 is the newest high school in the Columbia Public Schools System, serving 1,350 students.

In recent years, job training, housing, food, and medical programs have been designed to address the longstanding problems of economic deprivation. The fundamental barriers between the poor and the mainstream of society, though, are (1) the effects of generations of poverty, (2) the lack of adequate jobs and job opportunities, and (3) the lack of a solid basic education. Research studies mirror the same findings: there is a direct link between family income and educational achievement. The higher the income of the family, the better the student generally performs academically.

Despite measurable progress in recent years, the state has a disproportionate number of poverty level families and individuals who live and raise their children in a total environment that makes it extremely difficult, and often impossible, for them to prepare for effective roles in all of society's systems, including law, economics, personal values, and education.

During the last generation, the leadership of South Carolina made a conscientious effort to address some of this state's longstanding problems. In the mid-1960's, Governor Robert McNair commissioned a nationally respected consulting firm to give the Palmetto State a thorough physical examination and to recommend strategies to enable South Carolina to join the mainstream of American society. The conclusion of the subsequent Moody Report was that only through strengthening public education could this state make a quantum leap forward.

According to the Moody Report, improved education is basic to South Carolina's sustained economic growth because it will (1) insure our citizens of opportunities matching those available anywhere else in the nation; (2) provide South Carolina with the well-educated labor force that modern business, agriculture, and industry require; and (3) enlarge the pool of high school graduates who will take advantage of higher education, providing the skilled workers, technicians, managers, and professionals essential to sound, balanced economic growth.

The schools today are trying to meet the needs of a new student constituency, which includes many who may have been allowed to filter out of the educational system in earlier years. South Carolina has a mandatory school attendance law for students from age 6 through 16, as well as dropout prevention programs and a vibrant vocational education program. The state has a unitary school system and is implementing a Basic Skills Assessment Program that provides a uniform yardstick to measure pupil performance.

A vital part of the Basic Skills Assessment Program is the first grade "readiness" test, given to each first-year pupil during the first three weeks of the fall semester. Initiated two years ago, the first grade readiness test underscores the traditional

Greenview Elementary School in the School District of Greenville County has been selected as one of the eight most outstanding school designs in the nation for 1981. Selection was made by members of the American Association of School Administrators and The American Institute of Architects. (Photo by Joann Sieburg-Baker.)

link between family background and projected educational attainment.

Taking the state's first grade population as a whole, nearly 64 percent of all first graders in the fall 1980 administration of the test were classified as "ready" to begin the formal school curriculum. When the first grade population is divided by economic classifications, however, the pupil coming from a low income family in general was not nearly as well prepared to begin formal school training. While 78.8 percent of the pupils from families who could afford to pay for school lunch came into the public school system "ready" to begin the first grade work, less than 48 percent of the pupils eligible for free lunches were "ready" to begin the formal learning process.

In addition to economic background, the other salient factor contributing to a child's projected success in school is kindergarten experience. Of the first graders who had attended public kindergarten, 64.7 percent scored well enough on the first grade readiness test to be classified as "ready" to do first grade work. Of those pupils who had not gone to kindergarten, only 33.3 percent were "ready." Once pupils who are "not ready" have been identified, local school districts have a variety of methods to help these pupils overcome their deficiencies.

The first grade readiness test is just one part of the comprehensive Basic Skills Assessment Program. Learning objectives have been developed for each grade level, and this spring, pupils in grades 1, 2, 3, 6, and 8 will be given year-end tests designed to measure their progress. Beginning in spring 1982, South Carolina's 11th grade students will be tested near the end of the year to determine any deficiencies that may exist in their academic profile. For students with weaknesses in specific areas, special help will be provided the following year.

Because of the disadvantages pupils from lower socioeconomic backgrounds tend to bring with them into the classroom, they are more dependent on the school for opportunities to learn to read and write than are pupils from middle income backgrounds. However, in a kind of educational Catch-22, because of that background, they are less likely to take advantage of the educational opportunities a school provides.

The solution is twofold. These pupils must come into the educational system better prepared to perform in the classroom, while the school must find more effective ways of ministering to the special needs of these pupils. That's why South Carolina educators have high hopes for the state-wide kindergarten program and the Basic Skills Assessment Program, which for the first

time blueprint an education plan for all children state-wide.

I have addressed at length the first grade readiness test and overall Basic Skills Assessment Program because I feel they hold great promise. There are, however, other aspects of the public education system that are likewise designed to make important contributions to our students individually and to our state as a whole.

At the time of this writing, 70 of South Carolina's school districts have incorporated programs for gifted and talented students. Next school year, this program may be expanded to cover all 92 school districts.

A realistic appreciation of the value of vocational education is evidenced by the fact that about 65 percent of South Carolina's high school students are enrolled in various types of occupational programs. Further, within the past 12 years, the number of handicapped children served by special education programs in our schools has more than tripled — rising from about 26,000 to nearly 86,000. Finally, the state is conducting an ongoing adult education program that offers services ranging from basic education to a high school diploma program.

We know that education doesn't cost — it pays. To educate children costs about $1,600 per child per year. To keep one prisoner in jail for one year costs $8,600. To keep one child in a detention home for one year costs $11,500. Public schools are still the best bargain.

For more than three centuries, South Carolina's economic base was a narrow bridge. Public education throughout the years numerically met the needs of the existing economic system, but the skills required of most workers included something less than a high school diploma.

Times have changed, in both South Carolina's economic makeup and in the education its citizens need to become contributing members of society. Education and this state's economy are forever married, "for richer or poorer, for better or worse." A happy union between the two will guarantee both a richer and a better lifetime for future generations of South Carolinians. The state's economic system and educational system will progress together or neither will move very quickly.

An Introduction to Money Market Mutual Funds and an Analysis of Their Performance

By Michael G. Ferri and H. Dennis Oberhelman

INTRODUCTION

The money market mutual fund is a recent but popular financial institution. The first fund began operations in 1974, but currently more than 3½ million investors (including individuals, corporations, and banks) invest over $80 billion in the nearly 100 money funds.[1] As a new institution, however, the money fund raises questions in the minds of many potential investors. These authors address some of the more important of those questions, beginning with a brief description of a fund and proceeding to an account of the recent performance of selected funds and a comparison of the benefits of these funds against the returns from direct purchase of money market securities.

[1]According to data compiled by the Investment Company Institute, Washington, D.C.

A BRIEF DESCRIPTION

A money market mutual fund is a device through which a group of investors can pool their cash and buy money market assets that have large denominations and minimum purchase requirements. Investors buy shares in the fund and are part owners: they are not depositors. Management of most funds is in the hands of professional firms. Neither the fund nor its component assets are insured as bank deposits are. Most funds permit investors to open and maintain accounts with small amounts of money (on the order of $500).

The investor's income is his share of the interest (and maybe capital gains) from the assets in the fund. Some funds invest only in Treasury bills and debt of Federal agencies. Other funds may purchase these assets as well as the higher yielding commercial paper, negotiable certificates of deposit,

and banker's acceptances. Though most funds select assets with a year or less to maturity, the managers have great discretion within that range. A manager's choice of maturity is a prime determinant of a fund's success.

A recent survey of shareholders reveals that they especially prize three attributes of the fund.[2] The first is liquidity: investors may withdraw their money easily and without penalty. The second is safety: most funds invest in assets of high quality and strive to maintain a specified share value (usually, $1.00). The third attribute is the high yields: investors with small cash balances gain the chance to obtain the high interest rates of the money market and to escape the artificially low rates of the regulated, traditional financial institutions.

THE PERFORMANCE OF SELECTED FUNDS

Many funds measure their performance by a "yield" which is an annualized extension of interest gains over a brief and recent interval. The yield, however, is seldom a faithful predictor of a fund's eventual actual success over a sustained period. In this article, the measure of a fund's performance is its "return," the average monthly gain or loss it has achieved over the year. The monthly gain (loss) is the ratio of the dividend and any price change in the month to the value at the start of the month. For example, the gain in a month when the dividend is $.0065 and the price falls from $1.00 to $.995 would be .15 of 1 percent. The average of such monthly gains and losses within a year is an exact record of the investor's experience with a fund and serves as a suitable basis for comparing funds with one another and with alternative investments.

Money market mutual funds display surprising variation in return. Table 1 contains a report of the variation found in the returns on a sample of selected, prominent funds during the period 1976-'79.[3] An example will indicate the proper way to interpret that table: the 15 funds of 1976 had, on average, a return of .44 of 1 percent per month; the highest and lowest returns were .48 and .40 per month, respectively. It is interesting to note that the level and variation in return grew larger in later years, when high and gyrating interest rates posed traps and opportunities for fund managers.

TABLE 1. The Return on Sampled Money Market Funds: 1976-'79

Year	1976	1977	1978	1979
Number of Funds	15	24	29	32
Return:				
Average	.44%	.40%	.58%	.86%
Standard Deviation	.02	.03	.03	.03
Minimum	.40	.32	.49	.78
Maximum	.48	.47	.63	.90

Sources: **Donoghue's Money Fund Report** and **Wiesenberger's Investment Companies Service.**

Note: The "return" is the mean monthly return, which is described in the text, and measured in fractions of 1 percent.

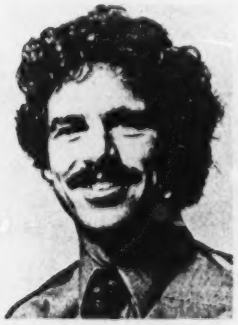
The differences in return result partially from the types of assets the various funds prefer. Some recent research has revealed, too, that larger funds offer slightly higher returns than smaller ones.[4] Further, the research has confirmed a deeply held belief among money managers: that managerial

[2]"Money Market Funds: Interested Investors and Purchasers," conducted by the Investment Company Institute in July 1980.

[3]These data were drawn from public records published in **Donoghue's Money Fund Report** and **Wiesenberger's Investment Companies Service.** Funds were randomly selected from that group of funds that had been active for the entirety of at least 1 year.

[4]Michael G. Ferri and H. Dennis Oberhelman, "The Money Market Mutual Fund: An Analysis of Its Risk and Return," soon to appear in the **Journal of Portfolio Management.**

Dr. Michael G. Ferri is Associate Professor of Finance in the College of Business Administration at The University of South Carolina. He earned an A.B. Degree from Xavier University, an M.A. Degree from Notre Dame, and a Ph.D. Degree in Economics from the University of North Carolina at Chapel Hill. He has authored or coauthored articles in the **Journal of Finance, Financial Management,** the **Journal of Portfolio Management, Real Estate Issues,** the **Journal of Economics and Business,** the **Journal of Financial Research,** and others. Dr. Ferri also has served as a Consultant to several local banks and firms and some large money market funds.



Dr. H. Dennis Oberhelman is Assistant Professor of Management Science in the College of Business Administration at The University of South Carolina. He received a B.S. Degree from Xavier University and a Ph.D. Degree in Economics from Purdue University. He is a coauthor of several forthcoming articles in **Financial Management** and the **Journal of Portfolio Management.** Dr. Oberhelman has presented papers at various conferences on economic and statistical issues and has been a Consultant for some large money market funds.

ability to choose the correct maturity is a chief influence on the level and shape of a fund's return. The implications of this table and research are clear: some funds offer higher returns than others, and prudent investors should not let their choice of a money fund be dictated solely by matters of convenience or familiarity.

The record of the sampled funds also provides some evidence that a fund's performance in 1 year is not necessarily a good predictor of how well it will do in later years. Table 2 contains a list of the sampled funds and gives their rankings, by level of return, for each of the 4 years in which they were active. The ranking is a number representing the relative position of the fund's return among all returns; the number 1 means that the return was among the highest 25 percent registered in that year, the number 2 signifies that the return was in the second highest 25 percent of all returns, and so on. (Because of the number of funds and the distribution of returns, some quartiles may not contain an exact 25 percent of the sample.)

Table 2 shows that some large and well-known funds — Kemper, Merrill Lynch Ready Assets, and Rowe Price, for example — have established consistent records of high performance. Other funds, particularly those specializing in low yielding government securities (and marked with a "G"), are repeatedly among the lowest group in terms of return. However, many of the remaining funds experience rather sharp changes in their relative position in the sample. American General and Midwest Income, for example, had high returns initially, but performed in a poor way thereafter. Steinroe, too, has been among the best and the worst in its 3 years of operation. This table tells a tale that all investors should heed: many funds perform erratically, and it would be prudent to monitor a fund closely to insure that it's keeping pace.

TABLE 2. Rankings by Quartiles of the Sampled Funds, According to Their Return: 1976-'79

Fund	1976	1977	1978	1979
American General	1	4	4	3
American Liquid Trust	4	3	1	3
Capital Preservation (G)	—	4	4	4
Cash Management Trust	—	—	4	2
Cash Reserve Management	—	—	2	2
Current Interest	4	4	2	4
Daily Income Fund	2	3	3	4
Dreyfus Liquid Assets	2	4	4	2
Eaton and Howard Cash Management	3	3	2	2
Federated Money Market*	—	—	—	4
Fidelity Daily Income	1	2	1	1
Financial Daily Income	—	4	2	2
First Variable Rate	—	—	—	3
Franklin Resources	—	1	3	2
Fund/Government Investors (G)	3	2	4	4
Gradison Cash Reserves	—	2	3	3
Holding Trust	1	1	1	—
Intercapital Liquid	—	—	1	2
Kemper Money Market	1	1	1	1
Massachusetts Cash Management	—	1	1	3
Merrill Lynch Government (G)	—	—	—	4
Merrill Lynch Ready Assets	—	3	1	1
Midwest Income	2	1	3	4
Moneymart Assets	—	4	3	3
NEL Cash Management	—	—	—	3
Oppenheimer Monetary	3	2	2	1
Putnam Daily	—	—	4	3
Rowe Price Prime Reserve	—	2	1	1
Reserve Fund	3	1	2	1
Scudder Managed Reserves	4	3	3	4
Steinroe Cash Reserves	—	1	4	1
Union Cash Management	—	—	2	1
Vanguard Money Market Trust**	2	3	3	2

Sources: Same as Table 1, this article.

Notes: The numbers in the columns represent quartiles or fourths; a 1 means that the fund's return was in the highest 25 percent of all returns; a 2 represents the next highest 25 percent, and so on.

(G) indicates that the fund invests exclusively or very largely in securities issued by the U.S. Government and its agencies.

* Merged into Money Market Management, Inc. in 1980.

** Formerly Whitehall Money Market.

MONEY FUNDS AND DIRECT INVESTMENTS

Many investors wonder if money funds offer a higher rate of return than might be obtained through the direct purchase of Treasury bills or CD's or other money market assets.[5] The answer to that question is contained in Table 3 which shows that the funds offer a return that tends to be slightly greater than that on T-bills and somewhat less than that on CD's and commercial paper. Table 3 reports 2 items. The first is the number of funds whose returns exceed the return on each of 6 direct investments in money market assets: bills, CD's, and commercial paper of both 1 and 3 months to maturity. The second item is the average difference between the returns on all the sampled funds and that of each short-term asset. This table shows, for example, that in 1976, only 5 funds posted a higher return than an investment in 3-month commercial paper, renewed or "rolled over" each quarter, and that the return on the commercial paper was .017 of 1 percent per month greater than the average gain on the 15 mutual funds.

It must be noted that the returns for the direct investments do not reflect the costs of transactions

[5]The prices for the assets in these hypothetical portfolios were based on the monthly record of interest rates contained in Salomon Brothers' **An Analytical Record of Yields and Yield Spreads.**

TABLE 3. The Number of Funds Whose Returns Exceed That of the Direct Investments in Short-Term Assets and the Average Value of the Difference Between the Returns on the Funds and That of the Investment, 1976-'79

Investment	1976 (n=15)	1977 (n=24)	1978 (n=29)	1979 (n=32)
A. Investment in Treasury Bills				
— 1 Month	14/.032*	7/-.018	17/.005	30/.051
— 3 Months	7/.004	1/-.032	16/.001	27/.034
B. Investment in Commercial Paper				
— 1 Month	12/.018	1/-.044	1/-.044	4/-.030
— 3 Months	5/-.017	1/-.049	1/-.046	9/-.021
C. Investment in Negotiable Certificates of Deposit				
— 1 Month	13/.019	1/-.040	0/-.048	7/-.023
— 3 Months	5/-.013	1/-.046	1/-.043	12/-.013

Sources: **Donoghue's Money Fund Report, Wiesenberger's Investment Companies Service**, and Salomon Brothers' **An Analytical Record of Yields and Yield Spreads.**

*Interpretation of the table should follow this example: 14 of the 15 funds from 1976 had a mean monthly return that was greater than the return on an investment in 1-month T-bills; further, the average difference between the returns on the 15 funds and the T-bill was .032 of 1 percent per month.

or the slight tax advantage on interest from T-bills. The costs of transactions include commissions and custodial fees, both of which may be high for small purchases (i.e., those less than $100,000). The tax advantage is not large enough, however, to eliminate completely the advantage the funds have gained over the investment in T-bills.

Any investor trying to choose between money funds and direct purchase of current assets should realize that the difference in return between the 2 alternatives is not large. The biggest amount by which the direct investment exceeds the funds is .049 of 1 percent (which was scored by a commercial paper portfolio of 1977). That figure translates into a yearly difference of only .59 of 1 percent. Most differences in other years tended to be considerably smaller than that. Solely in terms of return, then, the investor is not apt to reap especially large gains from direct investment.

Additionally, the funds offer advantages that may, for most investors, outweigh the marginally higher return of direct investment. Funds permit easy and quick withdrawal of large or small amounts of capital. By contrast, the holder of a short-term asset may experience difficulty in liquidating his holdings prior to maturity. The funds offer check writing privileges that enhance the liquidity of monies invested in them. Funds allow investment of odd or marginal sums of money, while direct investment in money market assets requires large sums. Finally, the funds tend to be successful in their efforts to maintain a fixed share value, while the price of individual money market assets can fluctuate sharply over the course of several months. The fixed share value of the funds gives an added fillip of liquidity and predictability to that medium of investment.

CONCLUDING REMARKS

The money market mutual fund is a versatile and popular investment, providing a large menu of services to many investors. Not all funds, however, are equally well managed, and caution should be the order of the day for any investor evaluating the many choices. Finally, while direct purchase of money market assets may earn somewhat higher returns than investment in the funds, the funds have advantages that may compensate most investors for the slightly reduced returns they receive.

USC College of Business Administration Update: Foundation Fellows Named

By Virginia Ann Van Seters

In September 1977, The University of South Carolina-Business Partnership Foundation established the Foundation Fellows Program to recognize scholarship and academic contributions of members of the faculty of the USC College of Business Administration. More specifically, this program supplies salary supplements that enable the College of Business Administration to recognize truly outstanding members of its faculty with respect to their proven leadership and scholarship and their potential ability to lead the College of Business Administration in qualitative advancement. It is both a reward system for past performance, and a recognition program for continuing and potential excellence.

Any member of the faculty of the USC College of Business Administration is eligible to be considered for appointment as a Foundation Fellow. Recommendations for appointment are submitted by the Dean of the College to the Faculty Development Committee of the Board of Trustees of the Business Partnership Foundation. The committee members then make their selections and submit them to the full Board of Trustees for their approval or disapproval. The appointments are for two years, and are renewable at the discretion of the Trustees.

In the December 1977 issue of this publication the Foundation Trustees announced that Dr. Ronald M. Copeland, Dr. J. Stanley Fryer, and Dr. Arch G. Woodside had been selected for the original three appointments for academic years 1977-'79. In the November 1978 issue, it was reported that Dr. James L. Cochrane and Dr. S. Travis Pritchett had been named for academic years 1978-'80. In the November 1979 issue of the **Business and Economic Review,** the Members of the Foundation Board of Trustees announced that (1) Drs. Copeland, Fryer, and Woodside's original appointments had been renewed; and (2) two additional Foundation Fellows, Dr. James B. Edwards and Dr. William W. Mobley, had been added to this distinguished list for academic years 1979-'81. In this latest issue, the Foundation Trustees are very pleased to report that (1) Dr. Pritchett's appointment has been renewed, and (2) four new Foundation Fellows have been named. They are Dr. Philip L. Cooley, Dr. William R. Folks, Jr., Dr. Robert E. Markland, and Dr. Rodney L. Roenfeldt. Brief sketches of Drs. Cooley, Folks, Markland, and Roenfeldt follow, in alphabetical order.

Miss Virginia Ann Van Seters is Associate Editor for the Division of Research and Editor of the Faculty-Staff Newsletter in the College of Business Administration, The University of South Carolina. An honor graduate of USC's College of Journalism, Miss Van Seters has won numerous professional awards. Prior to joining the staff of the College of Business Administration, she also worked in legislative reporting and public relations.

Dr. Philip L. Cooley, 37, Professor of Finance. A member of the faculty of the College of Business Administration at the University of South Carolina since 1973, Dr. Cooley is a former member of the faculties (Finance) of the Ohio State University and (Mathematics) of the Far-East Division (Seoul, Korea) of the University of Maryland and the United States Armed Forces Institute and a former Mechanical Engineer for General Motors.

The recipient of 2 research grants and a Research Fellowship, he graduated with a B.M.E. Degree from General Motors Institute, an M.B.A. Degree from the University of Hawaii, and a Ph.D. Degree in Business Administration from The Ohio State University. Secretary-Treasurer of the Southern Finance Association, Vice-President of the Eastern Finance Association, Associate Editor of the **Journal of Financial Research,** and a member of the Editorial Board of the

Journal of Business Research. Dr. Cooley was elected to receive one of the 1980 Alfred G. Smith Awards for Excellence in Teaching and was named the 1976 Delta Sigma Pi International Professional Fraternity of Business Faculty Member of the Year (USC).

Listed in **America's Names and Faces** and **Who's Who in America,** he has served as a member of the Program Committee for the Financial Management Association; as a Session Chairman and a member of the Nominations and Competitive Papers Selection Committees of the Southern Finance Association; and as a Session Chairman and a member of the Program Committee of the Eastern Finance Association. He is also a member of the American and Western Finance Associations. A Reviewer of Books for Holt, Rinehart & Winston, Inc., Houghton Mifflin Publishing Company, West Publishing Company, The Dryden Press, and Charles Merrill Publishing Company, Dr. Cooley also serves as a referee for articles in the **Journal of Finance, Financial Management,** the **Journal of Risk and Insurance,** the **Journal of Economics and Business,** and the **Financial Review;** and as a consultant for the real estate industry, insurance companies, petroleum companies, commercial banks, book publishers, law firms, and trade associations. He is the author or coauthor of 30 articles in such journals as **Bankers Magazine,** the **Journal of Finance,** the **Journal of Risk and Insurance,** the **Journal of Business Research, Business Horizons,** the **Financial Review, Financial Management, Problemi Di Gestione, Managerial Planning,** the **Real Estate Appraiser,** the **Journal of Business,** the **Atlanta Economic Review,** the **Journal of Financial Education,** the **Journal of Financial Research,** the **Journal of Business Finance and Accounting,** the **American Journal of Small Business,** and the **Business and Economic Review;** and 24 professional papers presented at meetings of the Ohio, Western, Eastern, and Southern Finance Associations; and the Financial Management Association. Dr. Cooley has also served as an Instructor in 41 Executive Programs for associations, institutes, and foundations in Brazil, Maryland, Pennsylvania, Tennessee, Massachusetts, Washington, Oregon, Oklahoma, Mississippi, Virginia, Texas, Louisiana, Illinois, Florida, Nevada, Indiana, Georgia, North and South Carolina, and Washington, D.C.

Designer of the Ph.D. Seminar course Issues in Finance, he is currently in USC's Faculty Senate and a member of USC's Library and Book Store Committees. Also at USC he has served as Chairman of the Academic Policy Advisory, Library, Undergraduate Curricula and Course, and Financial Core Course Committees; and as Secretary-Treasurer of the Faculty Club; and as a member of the Student Affairs Committee.

Dr. William R. Folks, Jr., 36, Program Director of International Business and Professor of Business Administration. Dr. Folks has been a member of the faculty of the College of Business Administration at The University of South Carolina since 1969.

The recipient of 4 research grants, he earned his A.B. (Mathematics, cum laude) and D.B.A. Degrees at Harvard University.

A Consulting Editor in International Finance for Allyn and Bacon, Inc., Dr. Folks is also a former Referee for **Financial Management** and a member of the Editorial Board of the **Journal of International Business Studies.** He has served as Regional Director of the Financial Management Association, Vice-President-Membership of the Southeast Chapter and Cochairman of Local Arrangements for The American Institute for Decision Sciences (AIDS), and as a member of the Constitution Revision Committee of the Academy of International Business; and is a member of the Southern Finance Association. He has also chaired 4 sessions in International Finance, International Business, and International Investments for AIDS and the Southern and Eastern Finance Associations, and served as Program Chairman and **Proceedings** Coeditor for the Eastern Finance Association.

Dr. Folks has authored or coauthored 15 articles in **Financial Management,** the **Journal of Financial and Quantitative Analysis,** the **Journal of Financial Education,** the **Journal of International Business Studies, Management Science, Business International Money Report, Financial Executive,** and **The International Journal of Accounting;** 4 book chapters and 1 case; and 1 Occasional Paper for the Center for Multinational Studies of the International Economic Policy Association; 35 papers for presentation at meetings of the Financial Management Association; AIDS; The Institute of Management Sciences; the Southern, Eastern, and Western Finance Associations; the Academy of International Business; the Academy of Business Extraordinary Meetings (France and Egypt); the American Accounting Association; the Financial Standards

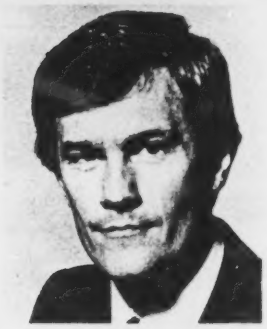
Board; and 3 invited papers for conferences at New York University, the University of Illinois, the National Association of State Universities and Land Grant Colleges, and The Netherlands School of Business. One of his major coauthored works was **The Impact of Statement of Financial Accounting Standards No. 8 on the Foreign Exchange Risk Management Practices of American Multinationals: An Economic Impact Study,** a Research Report for the Financial Accounting Standards Board of the Financial Accounting Foundation.

Dr. Folks has also been very active in continuing education programs both here and abroad. At USC he has served as Chairman of the Faculty Senate Grade Change Committee, as a member of Special Committees to Revise the M.B.A. Degree Program and to develop the Masters in International Business Studies (MIBS) Degree Program, and as a member of the Board of Student Publications and Communications. Over the past 5 years, Dr. Folks has overseen the tripling in size of enrollment in the MIBS Program and the significant rise in its academic standards. Currently, he is supervising the institution of 2 new language tracks for this degree: Arabic and Japanese. He has also overseen the development of an International Business Major at the Ph.D. level, with a unique overseas teaching and research requirement, and superintended a considerable expansion of MBA course offerings in International Business.

Dr. Robert E. Markland, 40, Program Director of Management Science and Professor of Management Science. A 1966 Ford Foundation Doctoral Fellow and A Distinguished Fellow of the American Institute for Decision Sciences, Dr. Markland served as a Cost Engineer and Systems Analyst for Eastman Kodak Company; as Associate Dean, Director of Graduate Studies, Research Coordinator, and Management Science Department Chairman at the University of Missouri-St. Louis; and as a member of the faculties of Washington and Arizona State Universities before coming to USC in 1978.

The recipient of 7 research grants, he holds a B.S. Degree in Civil Engineering (cum laude) from the University of Missouri-Rolla and M.B.A. and D.B.A. Degrees from Washington University. Accorded the AMOCO Foundation Excellence in Teaching Award in 1975, Dr. Markland is a Consulting Editor for the **Review of Business and Economics Research;** a Manuscript Reviewer for the **Naval Research Logistics Quarterly, Decision Sciences, Simulation/Games, Simulation, Management Science,** the **Journal of Operations Management,** the **Journal of Management,** and several book publishers; Vice-President, 1981 National Meeting Program Chairman, and former National Meeting Local Arrangements Chairman, Publications Chairman, Doctoral Dissertation Competition Chairman, Vice-President-Publications, and member of the Executive Council (2 nonconsecutive terms) of the American Institute for Decision Sciences; **Interfaces** correspondent and former Secretary-Treasurer, Vice-Chairman, and Chairman (St. Louis Getaway Chapter) of The Institute of Management Sciences; Full Member of the Operations Research Society of America; and Session Chairman at various meetings of the above 3 organizations.

Winner of the Paul W. Hammelman Award for the Outstanding Management Science Applications Paper at the 1979 Southeastern Meeting of The Institute of Management Science, he is the author of 1 book; author or coauthor of 35 articles in **Business Viewpoints,** the **Business and Government Review, The Journal of Operations Management, Financial Executive,** the **Naval Research Logistics Quarterly, Production and Inventory Control,** the **Journal of Research in Crime and Delinquency, Appalachian Finance Review, Business Perspectives, TIMS Interfaces,** the **Journal of Systems Management, The Journal of Industrial Economics, Decision Sciences, The Journal of Small Business Management,** the **Operational Research Quarterly, Simulation and Games, Simulation, Omega International Journal of Management Science, Computers and Operations Research, Management Sciences, The American Journal of Public Health,** the **Water Resources Bulletin,** the **International Journal of Urban Systems, Financial Management, The Review of Industrial Management and Textile Science, Inquiry,** and the **Business and Economic Review;** and author or coauthor of 9 cases, technical reports, and monographs. He has delivered numerous professional papers at national meetings and presented over a dozen seminars and short courses for such organizations and institutions as the Ralston Purina Company, the American Management Association, the American Production and Inventory Control Society, and Purdue University. Dr. Markland also has served as a Consultant to the Ralston Purina Company (8 years), the RAND Corporation, Milliken and Company, the Williams Pipeline Company, and several banks.



Dr. Rodney L. Roenfeldt, 35, Professor of Finance. A member of the faculty of the College of Business Administration at The University of South Carolina since 1972, Dr. Roenfeldt came to USC from Indiana University.

The recipient of 3 research grants, he earned a B.S. Degree in Business Administration (cum laude) at the University of Nebraska at Omaha, an M.B.A. Degree at Michigan State University, and a D.B.A. Degree at Indiana University. A member of the Founding Committee for the **Journal of Financial Research,** he is Vice-President-Annual Program and a former member of the Board of Directors (2 nonconsecutive terms) and the Committee to Study Cost Structure, Financial Controls, and the Executive Director's Functions of the Financial Management Association; a former Chairman of the Board of Trustees, President, Vice-President-Meeting Arrangements, Executive Committee Member, and Board of Directors Member (2 nonconsecutive terms) of the Eastern Finance Association; immediate past President and former Vice-President, State Secretary, and Executive Committee Member of the Southern Finance Association; and a member of the American and Western Finance Associations.

Dr. Roenfeldt has served as an Associate Editor for the **Financial Review,** the **Journal of Financial Research,** and the **Journal of Business Research,** and is an Ad Hoc Reviewer for the **Journal of Financial and Quantitative Analysis, Financial Management,** the **Journal of Economics and Business,** the **Journal of Risk and Insurance,** and the **Business and Economic Review.** He also has authored or coauthored a book chapter; more than 30 articles for **Financial Management,** the **Journal of Financial and Quantitative Analysis,** the **Journal of Business,** the **Journal of Financial Research,** the **Journal of Business Finance and Accounting, Financial Review, Journal of Business Research, Business Horizons, Collegiate News and Views, The Marketing Information Guide, Problemi Di Gestione, Management Accounting, Computer Decisions, Medical Instrumentation,** the **Atlanta Economic Review,** and the **Business and Economic Review;** and more than 20 professional papers for presentation at national and regional meetings. A former Consultant to the South Carolina Public Service Commission, he has served as an Instructor for more than 30 Executive Programs in North and South Carolina.

At USC, Dr. Roenfeldt is Chairman of the Graduate Admissions Committee; a former Faculty Advisor for Delta Sigma Pi International Professional Fraternity of Business; a former Chairman of the College of Business Administration's Ph.D. Study Committee for the Ph.D. in Business Administration, Finance Core Course Committee, and Academic Policy and Advisory Committee; a member of BA's MBA Study Committee; a member of USC's Graduate Council; and a member of BA's Planning Committee on Organized Research and Graduate Policy and Curricula Committee.

News from the Productivity Task Force

"Productivity improvements in the private and public sectors are the only assured means of a rising standard of living for all South Carolinians," according to Joseph T. Allmon, Chairman of the new Productivity Task Force sponsored by the Educational Resources Foundation of Columbia, South Carolina. At its February meeting, the task force, consisting of selected representatives of business and public institutions in South Carolina, announced that it will enlist private funds for its activities.

The Educational Resources Foundation, a nonprofit organization founded in 1964 and affiliated with South Carolina Educational Television, is devoted to assisting institutions of all kinds in South Carolina with employee educational programs. The foundation is also the sole distributor in South Carolina of training materials developed by the American Productivity Center in Houston, Texas.

On April 21 the Productivity Task Force, in cooperation with Greenville Tec College and the Greenville Chamber of Commerce, cosponsored an all-day seminar on "Robotics: An Alternative Method for Increasing Productivity" at Textile Hall in Greenville, South Carolina. In September, a major state-wide conference on productivity for business and government leaders is planned. Following will be regional conferences throughout the state featuring practical sharing of productivity improvement experiences.

"South Carolina can create its own version of Japanese leadership in productivity improvements," Allmon said. "The time has come for South Carolinians to become aware of the one weapon they have in combating inflation: productivity improvement. The attitude of our people in this regard is an infinite resource waiting to be cultivated," he said.

For more information on the Productivity Task Force, its mission and activities, contact W. D. "Dick" Robinson, Jr. at 254-0326.

The Management Bookshelf

By Dwight Gardner, Business Librarian, M.B.A., M.S.L.S.

The Management Bookshelf is a service to our readers provided by the Elliott White Springs Library of the College of Business Administration of The University of South Carolina.

EXECUTIVE'S GUIDE TO GOVERNMENT: HOW WASHINGTON WORKS
by Lee Fritschler and Bernard Ross
Prentice-Hall, Inc.
Englewood Cliffs, NJ 07632
1980, 256 pp., $16.95
This guide is designed for the executive who desires to understand more fully the processes of government regulation and how they affect his business. It examines business/government relations and explains how the government functions in its dual role as regulator and customer of the private sector.

PAPER MONEY
by Adam Smith (George Goodman)
Summit Books
1230 Ave. of the Americas
New York, NY 10020
1981, 322 pp., $13.95
Paper Money is the latest offering by the author of **Money Game** and **Supermoney.** Here he explores the present and future value of the dollar, the dollar's role as a global currency, and how international events affect the dollar.

THE SMALL COMPUTER IN SMALL BUSINESS: THE COMING OF AN AGE
by Brian R. Smith
Stephen Greene Press
Fessendew Rd.
Brattleboro, VT 05301
1980, 160 pp., $9.95
This primer should be useful to the small businessman who is seriously considering the purchase of a mini-computer. It supplies helpful information on both computer hardware and software. It even includes some of the alternatives to the individual's buying his own computer, such as time-sharing plans and service bureaus.

CONSUMER BEHAVIOR: A PRACTICAL GUIDE
by Gordon Loxall
Halsted Press
605 Third Ave.
New York, NY 10016
1980, 207 pp., $19.95
Loxall's guide is a survey of the field introducing the layman to the various sociological and psychological theories of consumer behavior. It contains a description and evaluation of each concept, as well as some notes on their applications.

PROFESSIONAL INTERVIEWING
by Cal Downs, Ernest Martin, and Paul Smeyak
Harper & Row Publishers, Inc.
10 E. 53rd St.
New York, NY 10022
1980, 448 pp., $12.95
This analysis of the interviewing process is designed to help the reader improve his interviewing skills and techniques. The authors examine the interview within the context of management, the mass media, and research.

COMMODITY SPECULATION FOR BEGINNERS: A GUIDE TO THE FUTURES MARKET
by Charles Huff and Barbara Marinacci
The Macmillan Co.
866 Third Ave.
New York, NY 10022
1980, 224 pp., $11.95
This volume provides a basic introduction to the commodity futures market. The information is presented in the form of a conversation between Mr. Everyperson and a group of experts from whom he seeks advice.

* * *

Readers are invited to submit titles of books that they wish to call to the attention of others.

STATISTICAL INDICATORS OF SOUTH CAROLINA BUSINESS

ITEMS	October 1980	October 1979	Latest Month Percentage Change from Year Ago
Deposits, Member Banks ($ millions)	$ 3,288	$ 3,100	+ 6.1
Demand	1,651	1,688	- 2.2
Time	1,637	1,412	+ 15.9
Loans, Member Banks ($ millions)	2,190	2,088	+ 4.9
Savings in Savings and Loan Associations ($ millions)[b]	5,444	5,035.6	+ 8.1
Sales and Use Tax Collections ($ thousands)	58,631	56,212	+ 4.3
Labor Market:			
Civilian Labor Force (thousands)	1,350.7	1,324.8	+ 2.0
Employment	1,259.3	1,260.6	- 0.1
Rate of Unemployment (percentage)[c]	6.8	4.8	+ 41.7
Nonfarm Wage and Salary Employment (in thousands)[c]	1,186.9	1,196.2	- 0.8
Manufacturing[c]	385.6	401.8	- 4.0
Contract Construction[c]	68.6	75.6	- 9.3
Transportation and Public Utilities[c]	54.8	54.7	+ 0.2
Wholesale and Retail Trade[c]	228.8	226.3	+ 1.1
Finance, Insurance, and Real Estate[c]	49.0	47.4	+ 3.4
Services, Mining, and Miscellaneous[c]	161.0	156.8	+ 2.7
Government[c]	239.1	233.6	+ 2.4
Average Hourly Earnings, All Manufacturing (in dollars)	$ 5.75	$ 5.27	+ 9.1
Initial Unemployment Claims Filed in South Carolina	19,187	19,456	- 1.4
Placements by South Carolina Employment Offices (nonagricultural)	9,189	7,953	+ 15.5
Indexes of Prices Received by Farmers (1966-68=100)			
All Farm Products	221	200	+ 10.5
All Crops	238	214	+ 11.2
Livestock and Products	221	202	+ 9.4
S.C. Parity Ratio	77	78	- 1.3
New Motor Vehicle Registrations			
Cars	9,930	11,179	- 11.2
Trucks	2,352	3,367	- 30.1

	October 1980	October 1979	First 10 Months 1980	First 10 Months 1979	Percentage Change
Valuation of Building Permits Issued ($ millions)[d]					
Total for all S.C. Counties	$193.1	$222.5	$1,494.4	$1,599.2	- 6.6
Available County Data					
Aiken	2.1	7.2	26.0	51.7	- 49.7
Berkeley	2.4	3.6	53.0	41.9	+ 26.5
Charleston	20.0	15.8	160.4	173.9	- 7.8
Dorchester	2.4	4.1	30.1	42.6	- 29.3
Lexington	5.5	4.4	89.0	73.0	+ 21.9
Richland	14.0	10.8	105.8	114.7	- 7.8
Greenville	23.6	37.9	180.9	183.8	- 1.6
Pickens	3.8	3.5	43.9	32.1	+ 36.8
Spartanburg	7.0	14.4	74.7	127.3	- 41.3

[a]Less than one-half of 1 percent.

[b]Due to the termination of certain data series by the Federal Reserve Bank of Richmond, this series has been replaced by the Federal Home Loan Bank of Atlanta.

[c]Ibid., the South Carolina Employment Security Commission.

[d]Note: These amounts are now being reported in millions of dollars instead of thousands of dollars.

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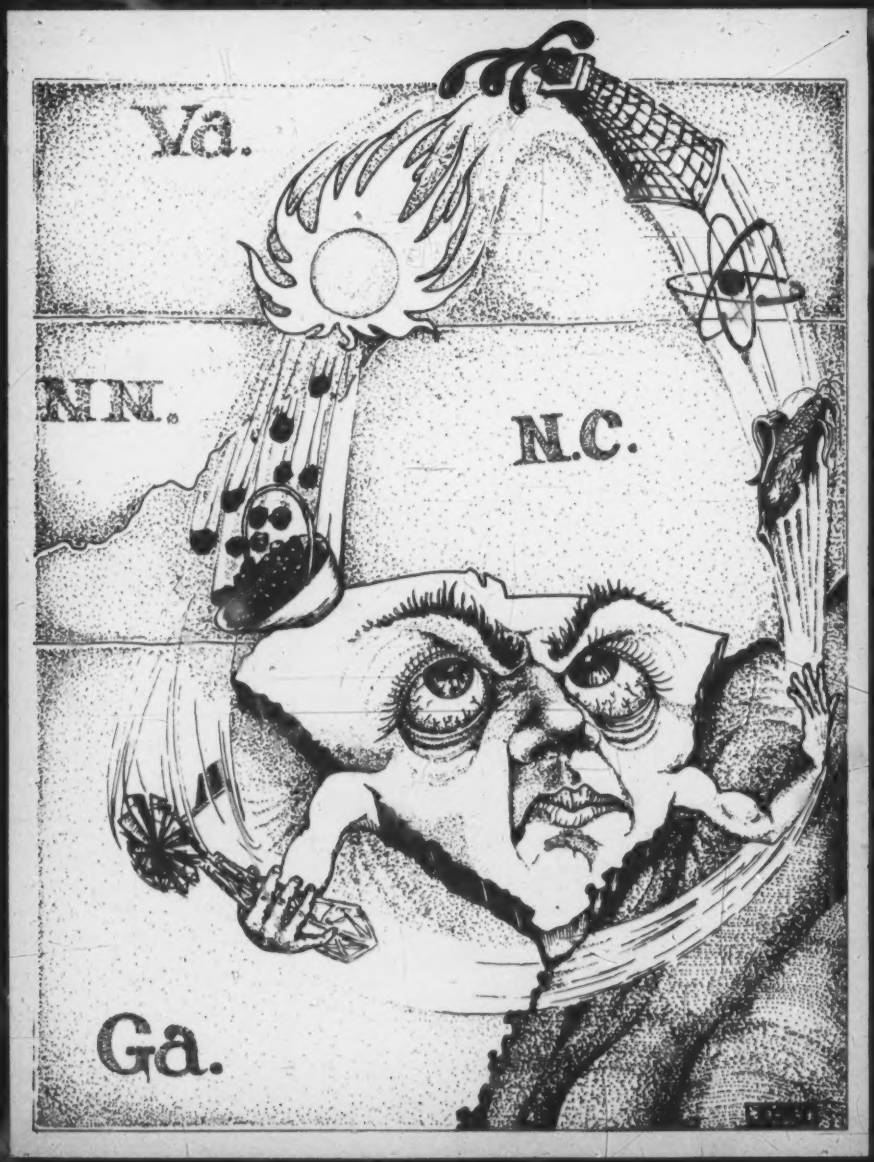
The Energy Future



Volume XXVII Number 6
May-June 1981

"Adjusting Our Energy Habits An Overview"
by Arnold Stebinger

"Federal Nuclear Energy Policy A Time of Transition"
by Ronald P. Wilder

"Coal Liquefaction Proven Path to Increased Energy Independence"
by F. Jerry Ingram and J. Mitchell Aberman

"South Atlantic Outer Continental Shelf Oil and Gas Development Prospects and Potential Impacts"
by H. Wayne Beam

"The Potential for Alternate Energy Sources in South Carolina's Energy Future"
by John M. Sharp, Kevin R. Madigan, and Torgny J. Viderstad

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Statistical Indicators of South Carolina Business

Summary of Contents

3 **Adjusting Our Energy Habits: An Overview.** The United States, says Arnold Stebinger, a 30-year veteran of international oil company management assignments in the Middle East, Southeast Asia, Europe, and New York, is the world's largest consumer of energy — using more than the Soviet Union, West Germany, and Japan combined. In looking for a solution to our current energy problems, Prof. Stebinger observes that the debate on energy policy has become an argument between those who say "use less" and those who say "produce more." In this overview of this issue's articles on "The Energy Future," he points out that what we really need is to find the way to a nationwide consciousness of the vital national necessity of saving energy and increasing domestic supplies. He explains that it is in the hope of aiding Americans in accomplishing this goal that the following articles are presented.

4 **Federal Nuclear Energy Policy: A Time of Transition.** Here Dr. Ronald P. Wilder takes a hard look at federal nuclear energy policy, and points out that it cannot be considered in isolation. He observes that nuclear energy is typical of the energy problem in general in that political, social, and economic aspects frequently overshadow technological considerations.

12 **Coal Liquefaction: Proven Path to Increased Energy Independence.** In a thoughtful review of the possibilities of coal liquefaction, Dr. F. Jerry Ingram and J. Mitchell Aberman discuss the South African experience and point out some of the possibilities and problems facing the United States in undertaking a long-range program to gain energy independence and military security through the development of synfuel.

21 In **South Atlantic Outer Continental Shelf Oil and Gas Development: Prospects and Potential Impacts,** Dr. H. Wayne Beam, Executive Director of the South Carolina Coastal Council, discusses this area of energy interest, particularly as it affects South Carolina and Georgia. According to Dr. Beam, some of the proposed tracts lie off South Carolina's coast, and the fact that companies are showing interest in these tracts is cause for some optimism. However, he points out that it is important to remember that the development activities are predicated on the discovery of marketable quantities of oil or gas during the exploratory phase and the volume of resources found.

27 In **The Potential for Alternative Energy Sources in South Carolina's Energy Future,** Dr. John M. Sharp, Kevin R. Madigan, and Dr. Torgny J. Vigerstad of the South Carolina Energy Research Institute, discuss the potential for alternate energy sources in South Carolina's energy future and note that the state's three renewable alternate fuels — wood, municipal solid waste, and ethanol made from grain — can supply only a small fraction of our current energy consumption (at best, 25 percent). Therefore, South Carolina will remain an energy poor state and be forced to import most of its energy needs from energy rich areas. The authors note, however, that although alternate sources can supply only a small portion of the total energy required, energy users should be aware that some of their energy needs can be met practically by alternate fuels.

35 **The Management Bookshelf,** a regular feature in which Dwight Gardner, USC BA's Business Librarian, reviews books of interest to business practitioners.

36 **Statistical Indicators of South Carolina Business.** A regular feature, listing the latest available data.

business and economic review

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Division of Research
College of Business Administration
The University of South Carolina
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Articles submitted for consideration for publication should concern business and economics topics of interest to managers in the private or public sectors. All manuscripts should be 12-26 double-spaced, typewritten pages, in English. Graphs, mathematical and quantitative data, charts, and tables are acceptable. Authors should submit 2 copies of each manuscript plus a vita sheet and a photograph. Upon publication, 6 complimentary copies of the journal are sent to the authors, with additional copies available upon request. Manuscripts to be considered for publication should be sent to: James M. Black, Editor, **Business and Economic Review,** College of Business Administration, The University of South Carolina, Columbia, S.C. 29208.

Published in Oct., Nov., Dec., March, April, and May by The University of South Carolina as a service for those interested in business and economic matters.

This month's cover: South Carolina is an energy "have not" state, and will be forced to turn to its better supplied neighbors for 75 percent of its energy needs. In this issue of the **Business and Economic Review,** the energy picture, especially as it affects South Carolina, is thoughtfully viewed, with suggestions on how we can make the most of the resources that are ours. (Cartoon by Eddie Josey of USC's Instructional Services Center.)

Adjusting Our Energy Habits: An Overview

By Arnold Stebinger

The United States is the world's largest consumer of energy — using more than the Soviet Union, West Germany, and Japan combined.[1] We have a little over 5 percent of the world's population[2] and use over 27 percent of the total energy consumed.[3] Finding out how we got to this condition, however, is of less immediate importance than deciding what we are going to do about it in the 1980's.

First, why is this a problem? Oil supplies about half the energy our nation uses, and foreign countries supply nearly 40 percent of the oil we need.[4] In a world of turbulent politics and erratic alliances, such dependency is, at best, dangerous; at worst, a major brake on our freedom to act in our national interest.

As for South Carolina, our situation differs somewhat from that of our nation as a whole. Oil supplied 43 percent of our state's 1978 energy use,[5] but the most notable variance is in the percentage supplied by nuclear energy — nationally, 12.5 percent;[6] in South Carolina, 29 percent.[7] Transportation takes about 25 percent of our national energy supply and in South Carolina, 27 percent.[8]

As we've looked for a solution, the debate on energy policy has at times drifted into an argument between the proponents of "use less" and those who want us to "produce more." Even the most casual examination of the sources of our energy reveals we must do both. There is no present prospect of our producing, within our 50 states, the 690 million gallons of oil we use each day.

We cannot continue to heat our homes and workplaces to 80° unnecessarily in winter — when 70° would reduce our fuel costs by 30 percent. If we cool to 78° instead of 72° in summer, we should save up to 47 percent of our cooling costs.[9] In a world of consistently increasing energy costs, what is our future when we use almost twice as much energy per dollar of gross domestic product as the French do? West Germans use only 73 percent of the energy we do.[10] One must conclude from these figures that we use more energy than necessary — and by a wide margin. It is no wonder Stobaugh and Yergin in their book **Energy Future** had a chapter entitled "Conservation — The Key Energy Source."

Domestically produced autos averaged 12.8 miles per gallon in 1973, the last year of cheap oil. The fleet average mileage for 1985 was established, under the Energy Policy and Conservation Act of 1975, at 27.5 MPG, more than double the 1973 performance.[11] Whether that extraordinary change will be achieved remains to be seen, but, in the meantime, gasoline consumption is certainly being reduced, from the 1978 peak of 300 million gallons a day to the 265 million gallons a day forecast for 1981.[12] While this 12 percent reduction in three years can hardly be described as a triumph of

[1] Rawleigh Warner, Jr., Chairman, Mobil Corporation (Speech, 6 November 1980).

[2] **1979 World Bank Atlas.**

[3] **BP Statistical Review of the World Oil Industry 1979** (London: The British Petroleum Company Limited).

[4] Warner.

[5] p. 29, this issue.

[6] p. 7, Table 1, this issue.

[7] p. 29, this issue.

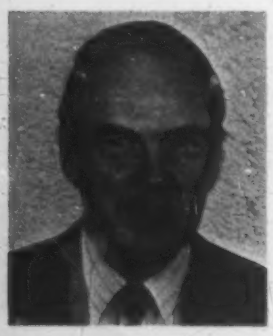
[8] Ibid. p. 30.

[9] U.S., Department of Energy, **Tips for Energy Saving,** DOE/CS-0020 (Washington, D.C.: Government Printing Office, March 1978).

[10] Robert Stobaugh and Daniel Yergin, **Energy Future** (New York: Random House, Inc., 1979), p. 143.

[11] Ibid.

[12] **Oil and Gas Journal** (26 January 1981).



Arnold Stebinger is Distinguished Lecturer in International Business in the College of Business Administration at The University of South Carolina. A graduate of Columbia University, Stebinger came to USC in 1974 after 30 years in international oil company management assignments in the Middle East, Southeast Asia, Europe, and New York.

heroic "belt-tightening," it is, nonetheless, a welcome contribution toward reducing our dependence on foreign oil.

South Carolina, with a population of 3,000,000 people, used just over 4,500,000 gallons of gasoline a day in 1979,[13] or 1½ gallons per person per day, slightly more than the national average consumption of 1 1/3 gallons per person per day. This reflects the population density of 100 people per square mile of land area, as compared with 500-900 per square mile in states like Massachusetts and New Jersey.

The review of energy prospects from alternative fuels, offshore oil, synfuels, and nuclear power shows no prospect of anything but higher costs each year for the balance of this century. With increased costs as one of the few certainties, government, business, and individuals need to examine carefully the economies of energy savings.

As a nation accustomed to cheap energy, we appear to be having trouble adjusting our habits to expensive energy. Do I really have to let go of my big car? Are the profits of my business really going to increase if I invest more in energy saving than in advertising? How large a tax credit and/or price increase is needed to get homeowners to cut their energy use? Economical transportation, efficient industry, and well-designed and insulated homes are all in our national interest. It is apparently no longer a question of whether we should have these as our goals, but rather how best to achieve them.

Some of these changes are already in progress. Industry, with an eye on the bottom line, has so far been the leader. The incentive is clear and the means are available — but a reasonably long-range perspective is needed to produce action.

[13]South Carolina Petroleum Council (July 1980).

The South Carolina Energy Research Institute article (p. 27, this issue) points out that "It has been our experience that many industries in the state fail to consider the life-cycle costs of alternate energy technologies." It also suggests "Industries may have to develop new attitudes . . ." This may indeed be the case when a company accustomed to getting energy from an unobtrusive cable is asked to change to burning garbage — hardly a pleasing prospect. We don't yet know how much economic benefit is needed to impel management to accept such a nasty process.

More efficient urban transportation has a great potential for reducing our dependence on foreign oil. For example, 8 people in a van that goes 10 miles on a gallon of gasoline use only a quarter of the gasoline needed by 8 cars getting 20 miles to the gallon. Where traffic density makes buses feasible, the savings are proportionately greater.

Government in its turn should reinforce the incentive to save energy by providing bigger and simpler tax breaks for those who improve the energy efficiency of their homes and business premises. A January 6, 1981, **Wall Street Journal** article pointed out, "In short, the 'market' does not create incentives to reduce energy waste in America's apartments." Since the heating costs of nearly 23 million rented units nationwide usually are borne by the largely transient tenants, the owners of rental apartments often are insensitive to higher energy costs. Here would seem to be an area in which governmental action needs to replace the lack of a market incentive.

Examples of the difficulties of saving energy, why "they" are preventing "me" from doing what needs to be done, are all too easy to find. What we really need to find is the way to a nationwide consciousness of the vital national necessity of saving energy and increasing domestic supplies. It is in the hope of aiding us in accomplishing this goal that the following articles are presented.

Federal Nuclear Energy Policy: A Time of Transition

By Ronald P. Wilder

At 4:00 a.m. on March 28, 1979, several water pumps shut off in the nuclear reactor of Unit 2 at Three Mile Island, Pennsylvania. That incident set off a series of events that led to the most serious accident ever experienced by the nuclear power industry in the United States.

> The stopped pumps had supplied water that normally drew heat from the pressurized water reactor's cooling water. After the pumps shut off, pressure . . . built up in the reactor, a relief valve opened to release the pressure, and the fission process in the core of the reactor was automatically stopped. But, instead of closing after the reactor pressure had fallen, the relief valve became stuck and stayed open for two hours and twenty-two minutes, which the operators did not realize. Radioactive cooling water flowed out of the reactor through the open valve and was inadvertently pumped out of the reactor containment building into an auxiliary building.[1]

At this point the emergency core cooling system automatically came on and started pumping water into the reactor core. The operators, however, were unaware that the cooling water was escaping through the stuck relief valve, so they turned off most of the water flowing through the emergency cooling system to keep the steam bubble in the pressurizer from collapsing. This combination of a relief valve stuck in the open position and an overriding of the emergency cooling system led to a situation in which the nuclear fuel rods were partially uncovered. As a result, the fuel rod cladding partially melted.

Although there was no loss of life associated with the Three Mile Island accident, and the emissions of radioactive gases have been judged to be relatively minor,[2] this event has left a large burden in its wake. First, the physical problems associated with the clean-up of the accident are enormous. Large quantities of radioactive water remain on the site; and the damage to the reactor vessel and fuel rod elements, although not yet fully known, are believed to be considerable. Second, the incident illustrated the vulnerability of nuclear technology to poor control room design and operator error.

In the aftermath of Three Mile Island, the American nuclear industry has been subject to a series of major delays in new operating permits. This accident, together with unfavorable economic conditions, has led to a number of cancellations of nuclear generating units and has raised the question of whether further development of nuclear energy as a domestic energy source is likely to occur. The purpose of this article is to discuss current issues in Federal policy toward nuclear energy in the context of the history of nuclear energy policy and current economic aspects of nuclear energy.

AN HISTORICAL PERSPECTIVE

The development of commercial nuclear power in the United States had its origin in the atomic weapons projects of World War II, followed by the Naval reactor programs. In the early days, the energy source was entirely controlled by the federal government under secret conditions.

The basis for the commercial development of nuclear power was established in the Atomic Energy Act of 1946, which transferred the program from military to civilian control, and stated that the development of atomic energy be directed toward improving the public welfare.[3] This act also established two governmental bodies to manage the development of nuclear power: the Atomic Energy Commission (AEC) in the executive branch and the Joint Committee on Atomic Energy in the legislative branch.

Limited development of atomic reactors took place during the late 1940's and early 1950's. Because of the security classification of information and because the government still retained all ownership rights to both reactors and nuclear fuel, industrial participation during this period was limited to those firms operating under contract to the federal government. The AEC Act of 1954 declassified much of the information that previously had not been accessible. The 1954 act also allowed private industry to own and operate nuclear reactors. Ownership of fissionable material, however, remained with the federal government. The late 1950's and early 1960's saw a large amount of federal and commercial activity in the development

[1]U.S., General Accounting Office, **Three Mile Island: The Most Studied Nuclear Accident in History**, 9 September 1980, pp. 1 and 2.

[2]Ibid., p. 5.

[3]Battelle Pacific Northwest Laboratories, **An Analysis of Federal Incentives Used to Stimulate Energy Production** (Washington, D.C.: Government Printing Office, 1978).

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of nuclear reactors for electricity generation. The first prototype plant in the United States began operation in 1957 at Shippingport, Pennsylvania. The Shippingport plant, built by Westinghouse, along with a prototype plant built by General Electric at Dresden, Illinois, in 1959, are examples of the light water reactor technology that now typifies nuclear power in the United States.[4] The term "light water" refers to the fact that ordinary water is used in the reactor vessel as neutron moderator and coolant.

The problem of liability insurance for the developing commercial nuclear power industry received wide discussion during the 1950's. Because of the possibility of nuclear accidents involving large damage to public health and safety, utility companies were concerned about the liability problem. Private insurers, on the other hand, were reluctant to provide extensive coverage given their lack of experience with nuclear technology and the possibility of extremely large liability exposures. Congress decided to promote and subsidize the nuclear industry by passing the Price-Anderson Act in 1957. This act set a maximum liability per nuclear accident of $560 million. Private insurance would cover the first $60 million per accident, with federal insurance providing the next $500 million. A liability limit of $560 million was, in effect, transferring part of the insurance function from the owner of the reactor to its customers and neighbors. The Price-Anderson Act was amended in 1975 to replace the government insurance layer with private insurance, but the $560 million liability limit remains in effect.[5]

The relatively rapid development of commercial nuclear power was possible because the industrial base related to uranium mining, processing, and enrichment was already in place in support of nuclear weapons production. While the mining and processing activities had been handled by private firms, the enrichment activity was, from the beginning, a government enterprise and has remained so to the present day. Large federal plants at Oakridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio; enrich uranium from the 0.7 percent level of the isotope U/235 to about the 3 percent level necessary for use in light water reactors.

The commercial era of nuclear generation of electricity began with the announcement in 1963 by Jersey Central Power and Light Company that it was purchasing a 515 megawatt light water reactor from General Electric Company.[6] The decision to purchase the Oyster Creek plant was based on an economic analysis that projected that a nuclear plant would be cost competitive with a coal-fired generating plant. During the middle 1960's there was a rapid build up of new orders for commercial nuclear reactors. By the end of 1967, American utilities had placed orders for 75 nuclear plants. While the construction costs for the first several commercial plants were favorably low due to a firm price offered by the manufacturers, later plants began to be subject to rapid cost escalation. By the time plants were completed and in commercial operation, the final construction costs of plants going into operation in the mid-1970's frequently were double the originally estimated costs, even after adjusting for inflation.[7]

Despite this cost escalation problem, however, nuclear power remained economically competitive from the point of view of electric utilities because of the rapid increase in fossil fuel prices after the early 1970's and also because of the tightening environmental regulations affecting the burning of coal. High interest rates and high inflation rates, together with policy uncertainty regarding the tightness of regulation under the new Nuclear Regulatory Commission led to a sharp cutback in new orders for nuclear reactors after 1973. The Three Mile Island accident curtailed orders even more and led to the cancellation of a number of orders.

The history and current status of commercial nuclear power reactors in the United States is summarized in Table 1. As of October 1980, 75 commercial reactors were licensed to operate, of which 3 (including Three Mile Island Unit 2) were shut down for indefinite periods. There were 101 additional nuclear reactors under construction or on order as of that date. If all of these plants are ultimately completed, total nuclear capacity in the United States will be approximately 3 times as large as at present.[8]

The trend away from new orders of nuclear reactors recently led a trade publication to make the following statement:

> The nuclear construction program for the rest of the 1980's consists of only those units

[4]Irwin C. Bupp and Jean-Claude Derian, **Light Water** (New York: Basic Books, 1978), p. 5.

[5]Northwest Laboratories, **An Analysis of Federal Incentives**, p. 126.

[6]Bupp and Derian, **Light Water**, p. 42.

[7]Ibid., p. 79.

[8]U.S., Department of Energy, **Monthly Energy Review**, January 1981, p. 71.

TABLE 1. Operational History of United States Nuclear Power Reactors

Year	Number of Reactors Licensed for Commercial Operations at Year-End	Year-End Capacity (megawatts)	Percentage of United States Electricity Generation Accounted for
1960	2	0.3	NA
1965	10	0.9	NA
1970	19	6.5	NA
1975	56	35.7	9.0%
1976	62	40.6	9.4
1977	67	45.6	11.8
1978	71	49.4	12.5
1979	71	50.6	11.4
1980 (October)	75[a]	52.8	10.9[b]

Sources: 1960-'70, James L. Cochrane and Gary L. Griepentrog, "U.S. Energy: A Quantitative Review of the Past Three Decades" in **Energy Policy in Perspective**, ed. Crawford Goodwin (The Brookings Institution, 1981); 1975-'80, **Monthly Energy Review** (January 1981).

[a]Includes three reactors shut down for indefinite periods and four reactors in startup phase.

[b]Average for first 10 months of 1980.

NA = data not available.

that are now under construction. When that construction winds down no units are now on order to continue the program.

This situation has far-reaching implications in terms of nuclear infrastructure. Such an extended hiatus will make it difficult to maintain manufacturing and construction facilities and a skilled construction labor force, to attract bright young engineers, or to sustain a reasonable level of practical development.[9]

The history of commercial nuclear power in the United States has featured a very prominent role by the federal government, both as a promoter and a regulator of nuclear technology. Federal subsidies to nuclear energy have been important in the history of the technology; indeed, commercial nuclear power probably would not have developed without heavy federal involvement. The magnitude of the subsidies to nuclear power has been estimated to be about 16 billion 1976 dollars, which would equate to about 23 billion 1981 dollars. This estimate includes federal research and development costs, federal enrichment expenditures beyond costs recovered from fuel users, and the cost of regulation. Not included is an estimate of the subsidy content of the Price-Anderson Act, which is difficult to quantify but which is, nonetheless, a substantial subsidy to the industry. It should be noted that nuclear power is not the only energy source to receive federal subsidies; the oil industry, for example, is estimated to have received federal subsidies amounting to about 77 billion 1976 dollars, mostly in the form of favorable tax treatment.[10]

THE NUCLEAR FUEL CYCLE

The elements of the nuclear fuel cycle necessary for the light water reactor technology are shown in the figure for this article. Uranium is mined in open pit mines or in underground mines, yielding ores with very low concentrations of uranium. At the milling stage, uranium ore is concentrated to yellow cake, or uranium oxide, containing about 0.7 percent of the isotope U 235. Prior to enrichment, the uranium is converted to uranium hexafluoride which is a gas at high temperatures. The enrichment stage increases the percentage of U 235 to about 3 percent, which is the concentration found in nuclear fuel elements. Fuel fabricators such as the Westinghouse Plant in Columbia, South Carolina, assemble the fuel into metal clad fuel rods, the form in which the fuel enters the reactor. A 1,000 megawatt commercial reactor requires about 100 tons of fuel rods, of which about 1/3 require replacement each year. This 100-ton fuel load requires approximately 600,000 tons of uranium ore at the beginning of the fuel cycle.

The unfinished part of the nuclear fuel cycle is that related to the disposition of spent fuel once it leaves the reactor. Significant quantities of U 235 and plutonium remain in the spent fuel, suggesting that reprocessing of the fuel might extend the size of the uranium resource base. To date, however, large scale commercial reprocessing has not been successfully demonstrated in the United States.

Early attempts to construct and operate privately owned reprocessing plants in the 1960's at West Valley, New York, and Morris, Illinois, encountered combinations of technical, economic, and radioactive contamination problems.[11] The Allied General Nuclear Services plant at Barnwell, South Carolina, was expected to have begun reprocessing at a rate of 1,500 tons/year in 1975. Not only is this facility not yet operational, but recent events suggest it may never be.

[9]M.L. Clair, "1981 Capacity Additions Report," **Electrical World** (January 1981): 72.

[10]Northwest Laboratories, **An Analysis of Federal Incentives**, p. 151.

[11]Nuclear Energy Policy Study Group, **Nuclear Power Issues and Choices** (Cambridge: Ballinger Publishing Company, 1977), Chapter 11.

In 1977, President Carter announced a policy shift that would delay recycling indefinitely, based on a concern with the proliferation of plutonium. Allied General has since suggested that the Barnwell plant be purchased by the federal government for $360 million. While the plant has been on hold, it has been receiving several million dollars in operating funds from the U.S. Department of Energy to maintain a professional staff.[12]

Current Secretary of Energy James B. Edwards has indicated his support of reprocessing, stating at his confirmation hearings that "Saying no to Barnwell is like saying no to another Alaska pipeline."[13] Numerous problems and uncertainties would lie in the path of a decision to restart the reprocessing effort, including the issue of whether reprocessing is economically feasible at today's prices for uranium ore.

A recent study group concluded pessimistically regarding the prospects for reprocessing.

> There is no compelling national interest to be served by reprocessing. There appears to be little, if any, economic incentive and it is unlikely that reprocessing and recycling could proceed without subsidy.[14]

The economic feasibility of reprocessing appears to be closely related to the development of the breeder reactor, which will be discussed below. Whether or not spent fuel reprocessing is undertaken in the future, both a site and specific technology for long-term storage of high level waste such as spent reactor fuel are required. No final decision has been reached at the federal level regarding the site or technology for long-term disposal of high level waste. Meanwhile, spent fuel is being stored at reactor sites, and temporary away from reactor storage sites may be required in order to prevent fuel storage capacity from becoming a binding constraint on the continued operation of nuclear power reactors.

NUCLEAR VERSUS COAL GENERATION OF ELECTRICITY

One of the major effects of the rapid increase in petroleum prices since the early 1970's has been the gradual phasing out of petroleum and natural gas as major energy sources for electric utilities. Nuclear and coal remain the principal fuels of the future for electric utilities, in the absence of major breakthroughs in solar, fusion, or other advanced technologies. Although conservation and price effects have greatly reduced the rate of growth in the demand for electricity, it is not yet evident that conservation will ultimately reduce the level of demand below recent values. At the present time, therefore, it appears that expansion of coal and/or nuclear generation of electricity will be necessary between today and the first part of the 21st century. This expansion will take place primarily in the Sun Belt region, given present migrational growth patterns.

A comparison of relative costs for coal and nuclear generation of electricity is a hazardous undertaking. Costs vary widely across regions of the United States and through time. Capital costs for both coal and nuclear generating plants have been increasing at a rapid rate. Regulatory requirements for the two technologies also have been changing rapidly. As a consequence, one finds a rather wide variation in cost analyses, depending on the time the estimates are made and assumptions regarding regulatory restrictions.

The data in Table 2 represent rough estimates of the average costs of coal and nuclear generation of

TABLE 2. Illustrative Average Costs of Recently Constructed Nuclear and Coal Electric Plants, 1978[a] (Mills per KWH)

Costs	Nuclear	Coal
Fuel Costs[b]	3.4	12.5
Nonfuel Operating Costs[b]	3.4	2.7
Capital Costs[c]	14.3[d] (20.5)[e]	7.1[d] (10.0)[e]
Total Costs (before distribution and overhead costs)	21.1[d] (27.3)[e]	22.3[d] (25.2)[e]

Source: U.S., Department of Energy, FERC Form 1 Reports, Various Utilities.

[a]These cost estimates are based on national averages and should be considered as illustrative rather than definitive. Costs of both technologies vary widely from region to region in the United States and change rapidly over time.

[b]Based on national averages for large nuclear and large coal-fired plants in 1978.

[c]Based on average installed costs for large coal and nuclear plants entering service in 1977 and 1978. Capital costs were analyzed assuming a 30-year service life, a 60 percent capacity factor, and two alternative interest rates: 10 percent and 15 percent.

[d]Based on interest rate of 10 percent.

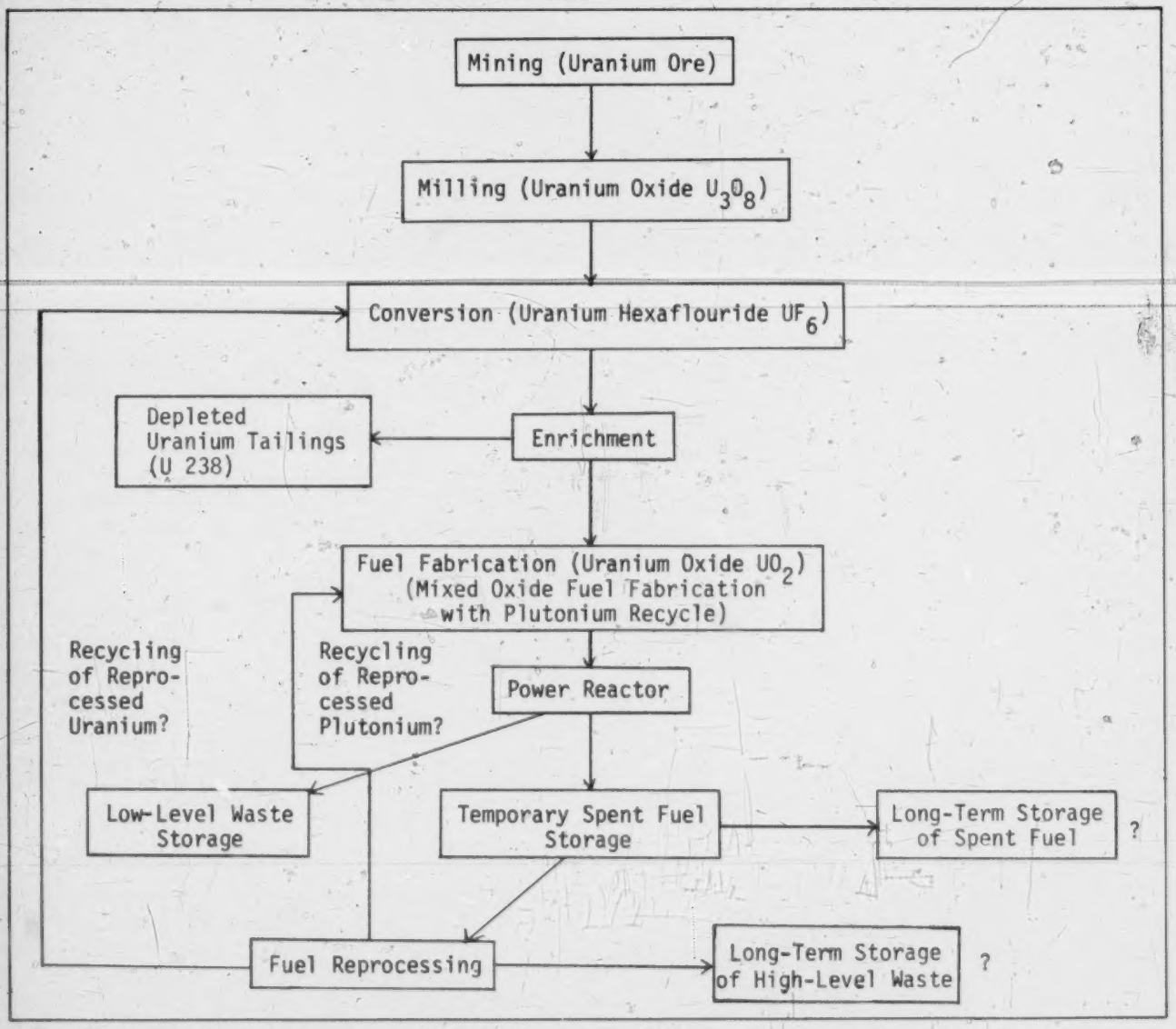
[e]Based on interest rate of 15 percent.

[12]"Bad News, Big Worries," **The Columbia State**, 13 April 1980, special supplement on nuclear energy.

[13]"Renewed Push for Nuclear Reprocessing Is Far from Certain, Despite GOP Support," **Wall Street Journal**, 3 February 1981.

[14]Study Group, **Nuclear Power Issues and Choices**, p. 333.

FIGURE. The Nuclear Fuel Cycle (Light Water Reactors)



Note: Question marks indicate those stages of the fuel cycle not yet completed.

electricity, based on those plants operating in 1978. As can be seen from these data, nuclear plants had much lower fuel costs, while coal plants had more favorable capital costs. Total costs of the two technologies as of 1978 were quite close, and the choice of interest rate tends to tilt the balance in favor of one technology over the other. It should be pointed out that these cost estimates do not include any costs not directly incurred by utilities, that is, they do not include pollution costs, research and development subsidies, decommission, or waste disposal costs.

The coal costs shown in Table 2 also do not include the costs of scrubbers to remove sulfur from stack gases, since plants with scrubbers were not in operation in 1978. The additional capital and operating costs of sulfur removal will tend to make coal relatively more costly. A recent study that projected coal and nuclear costs as of 1985, however, found a similar comparison between coal and nuclear after adjusting for such elements as scrubbers and cost escalation.[13] Given that the pace of nuclear licensing has slowed since the Three Mile Island accident, such regulatory delays,

[13]Sam H. Schurr et al., **Energy in America's Future**, National Energy Strategies Project (Baltimore: Johns Hopkins Press for Resources for the Future, 1979), Chapter 9.

if they persist, would tend to increase nuclear cost estimates.

In summary, the out of pocket cost to electric utilities of coal and nuclear power were so close as of 1978 that neither had a decided advantage. The present trend of no new orders for nuclear plants reflects the high degree of uncertainty about future regulation and licensing delays and also the large financial burden of capital tied up during the long construction and licensing period of such operations.

OTHER CURRENT ISSUES

Reactor Safety and Health Effects of Nuclear Power

The issue of nuclear safety has received wide coverage in recent years. Problems related to radiation exposure and reactor accidents have gained much attention in the news media and in Congress. Much less attention has been paid to the health effects of coal burning power plants. Although the routine operation of nuclear reactors is much cleaner in terms of air pollution than the average coal burning plant, the public tends to be concerned about the potentially drastic effects of a major reactor accident, an event that appears to have no direct analogy for coal burning plants.

Unfortunately, the state of knowledge of health effects and reactor safety is not good enough to support definitive conclusions regarding whether coal or nuclear technology has fewer hazards to public health and safety. For example, a recent survey of health effects concluded that the range of estimated fatalities among workers and the general public from electricity generating technologies ranged between 0.8 and 14 fatalities per plant-year for coal plants, and between 0.2 and 3 fatalities per year for nuclear plants (based on 1,000 megawatt plants). Because these ranges overlap, and because there is considerable uncertainty even regarding the lower and upper limits of the respective ranges, it is impossible to state unequivocally that one technology is safer than the other.[16]

Licensing and Construction Delays

The first commercial scale nuclear power plant, Jersey Central Power and Light Company's Oyster Creek unit, was announced in December 1963. The construction permit was applied for in March 1964, and the permit was granted in December 1964. The plant was completed and entered commercial operation in 1969, reflecting a time period of slightly over 5 years from the date of application for the construction permit to completion of the plant. More recent nuclear plants have encountered much longer licensing and construction periods. For example, the construction permit for South Carolina Electric and Gas Company's V.C. Summer Plant was applied for in June 1971 and granted in March 1973. Commercial operation, originally expected to occur in 1977, as of early 1981 was projected to occur in mid-1982.[17] Problems with compliance with continually changing Nuclear Regulatory Commission standards have been among the major causes of the delay. It is also true, of course, that the company's need for the plant has been delayed due to the slowing of electricity demand growth since 1973.

According to a recent study, the average length of nuclear power plant delays increased from 26 months for plants that began operation in 1974 to 59 months for plants beginning operation in 1978.[18] Although these delays are due to a combination of causes, including financing difficulties and construction and regulatory problems, the utilities tend to lay most of the blame on changing regulatory environments. The effect of such delays is to shift utilities toward coal plants and away from nuclear plants with respect to new plant orders, although new orders for coal plants have slowed also because of reduced demand growth and financial difficulties.

The Breeder Reactor

Since the early days of the Manhattan Project of World War II, the leaders of the nuclear industry have been fascinated with the concept of the breeder reactor. The breeder reactor is capable of producing additional nuclear fuel at the same time that it generates electricity. In effect, the breeder makes use of U 238, which is a waste byproduct of the present light water reactor technology, as a breeding material to be converted into fissionable material inside the reactor. The fuel cycle of the breeder concept requires that spent fuel be reprocessed to capture plutonium for use in light water reactor cores. The rate of breeding is relatively slow: it is expected to take about 17 years for a 1,000 megawatt light water reactor to produce enough plutonium to start up a breeder, and about

[16]Ibid., Chapter 12.

[17]South Carolina Electric and Gas Company, **1980 Annual Report.**

[18]U.S., General Accounting Office, **Electric Powerplant Cancellations and Delays**, 8 December 1980.

31 years for a newly started breeder to produce enough fuel to start up another breeder.[19]

The breeder technology is compelling because it would free United States energy production from dependence on a finite supply of uranium. What is not clear, however, is what the costs of electricity produced by the breeder technology would be and whether the breeder technology is needed as a medium-term energy source before the expected introduction of fusion or other advanced technologies some time in the 21st century. A recent major energy study drew the following conclusions regarding the breeder:

> Much of the research and development work for the liquid metal fast breeder reactor is now complete, but future costs are not easy to pin down. Our estimates indicate that the eventual costs of electricity from commercial breeders in the country might not differ greatly from those for reactors of current design.[20]

Although the Carter administration slowed the development of breeder reactor technology, there is some early indication that the Reagan administration would like to resume rapid development of the breeder. This matter is of considerable concern to environmentalists, who point to the potential health and nuclear proliferation hazards associated with a plutonium fuel cycle.

Nuclear Proliferation

The United States, the Soviet Union, the United Kingdom, France, and China had demonstrated nuclear weapons by 1964. The nonproliferation treaty was negotiated internationally in the mid 1960's and entered into force in 1970. India, which had not signed the treaty, detonated a nuclear device in 1974.[21]

The nonproliferation treaty was a recognition of the threat to world peace brought about by the spread of nuclear materials and scientific knowledge. As nuclear technology has developed, the knowledge required to produce weapons has spread to many nations beyond those that have demonstrated working weapons. For example, it is believed that the following nations have the trained personnel required to produce nuclear weapons: Pakistan, Taiwan, Israel, South Africa, Spain, Brazil, and Argentina.[22]

Most policy changes that would promote the development of either light water reactors or breeder reactors in the United States are viewed by some nuclear critics as invitations to greater nuclear proliferation. The major impact of nuclear development in the United States on proliferation overseas appears to be through the leadership role of the United States in international affairs and its membership in international control organizations.

CONCLUSION: ENERGY FUTURES

Nuclear power is at the same time a technology that offers considerable promise as a long-run source of electricity and a technology that raises public policy issues that are highly complex and not amenable to solutions with wide public acceptance. The outlook for nuclear power has deteriorated during the 1970's despite rapidly rising fossil fuel prices and increasing concerns about the environmental effects of coal. The share of the energy supply expected to be accounted for by nuclear power by the end of the century has decreased drastically. The resolution of this nuclear power paradox is one of the major decisions facing the American people over the next few decades.

Most studies of the energy future point to renewable resources and fusion technologies as the source of the long-run energy solution. Given the slowness of technological advancement, however, that long-run period may not arrive until the middle of the 21st century or beyond. It is the time period between now and that future time that nuclear power potentially has a role to play. Whether nuclear power becomes more important or enters a period of decline depends on at least two considerations. First, can the nation's energy demand be met by a combination of conventional nonnuclear sources and conservation at acceptable prices and environmental impact; and second, will the economic and political climate permit the further development of nuclear power?

There is, at present, considerable pessimism regarding nuclear power's role in the future. An electric utility trade publication, for example, stated recently:

> The prospect of a new and apparently pronuclear Administration raises the seductive thought that there will be a revitalization of the nuclear program. This is unlikely to

[19]G.D. Friedlander, "Breeder Progress Shifts Overseas," **Electrical World**, October 1980: 116.

[20]Schurr, **Energy in America's Future**, pp. 31 and 32.

[21]Study Group, **Nuclear Power Issues and Choices**, p. 274.

[22]Ibid., p. 277.

happen. The major stumbling block to the nuclear industry has not been government policy so much as it has been inadequate finances — and there isn't much a new Administration can do to change that. The immense capital demands of nuclear over a decade of anticipated high inflation raises a hurdle that few companies would care to risk even if in good financial health. And few today are in what might pass for good financial health.[23]

The problem of inadequate finances is common to all sources of future production of electricity, including coal, solar, and wood, as well as nuclear. Even many conservation measures, such as insulation and more energy efficient appliances, are capital intensive and adversely affected by high interest rates.

It is clear from the foregoing discussion that nuclear energy policy cannot be considered in isolation. Nuclear energy is typical of the energy problem in general in that political, social, and economic aspects frequently overshadow technological considerations. A good summary of the broad energy problem was made recently by Hans Landsberg of Resources for the Future.

Coping with (energy) problems involves four basic tasks:

1. Adjusting to high and rising energy prices.
2. Moving to a different mix of energy sources, in which oil, and after a while, gas, will decline in importance. Coal and, if we are lucky, nuclear energy will rise, and in the longer run nondepletable sources will come to play an ever increasing role.
3. Accomplishing the above tasks with the least damage to the economy, the environment, and world peace.
4. Adopting measures that will enable us to withstand the inevitable shocks and new stresses that lie ahead.

These formulations look straightforward and achievable. But within each issue nests another. Adjusting to higher prices involves coping with increasing inflation. Higher prices hit different segments of the population with differing degrees of severity. And inequitable policies would cause rampant divisiveness.

Moving to new energy sources such as synfuels raises complex questions of government's role regarding open or hidden subsidies, regional rivalries, and poorly understood environmental and health hazards.

A word about those who wish to participate in shaping energy policy: If they insist on seeing all their goals accepted, policy will continue to be made in agony and frustration, and at a snail's pace.

To the extent that we relearn the forging of consensus, energy policy too will benefit. Without it, energy policymaking will continue as the major battleground for opposing philosophies, life styles, and perceptions of the national destiny. That perhaps is the hard core of the energy problem.[24]

[23]See footnote 8, above.

[24]Quoted in, "What Six Experts Say," **National Geographic**, February 1981: 70 and 71.

Coal Liquefaction: Proven Path to Increased Energy Independence

By F. Jerry Ingram and J. Mitchell Aberman

Authors' Note: Our long-term confidence in the availability of energy tends to rise and fall with the short-term supply of oil. Pessimistic discussions of oil shortages and costly substitutes were dampened by the recent over-supply of oil and the favorable outcome of the OPEC meeting in May. It is worth noting, though, how quickly this optimism was dashed by one event — the Israeli bombing of an Iraqi nuclear reactor — and the immediate calls for an embargo by Arab states as a political sanction against the United States. The authors of this article implicitly argue that the United States' energy policy should not be subject to the emotional ups and downs of daily world events. Eventually, the worst that can happen will happen — a total cut-off of imported energy — and the resultant havoc will be compounded because we will be totally unprepared, still caught up in the euphoria of the previous day's good news.

INTRODUCTION

Writing in the December 1979 **Reader's Digest,** Rep. David Stockman (R-Mich.), now Director of the Office of Management and the Budget, said that

> even the high price of petroleum today (about $22 a barrel) is well below most estimates of synfuel prices. Estimates for liquid fuel extracted from coal are now about $40 a barrel.[1]

Only one year later, Saudi Arabian crude was up to $32 per barrel, and this was before President Reagan removed controls on domestic oil. It may be only a matter of days, and surely no more than a very few years, before petroleum reaches the price that will make synthetic fuels an economically viable energy alternative.

Unfortunately, coal liquefaction (essentially the conversion of coal to gasoline) and other synthetic fuel (synfuel) production facilities will not just appear out of the ether the moment oil prices rise one penny above the cost of producing synfuel. Years of planning and construction are required before a synfuel plant can go on line. Further, experts can't measure the cost of producing a barrel of synfuel to the accuracy of a penny; in fact, the estimates vary quite widely. William Samuel, Principal Engineer for Fluor Engineers and Constructors (parent company of Daniel International), the company that built the largest synthetic fuel facility to date — the Sasol II plant in South Africa — says,

> It all depends on how you do your accounting . . . with the depreciation schedules and tax laws in the United States it may be a while before it looks [economically] feasible, when actually it may be profitable right now.

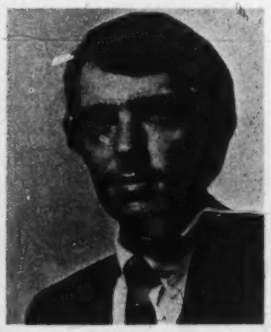
For example, the proposed 10-year depreciation schedule for plant facilities, currently under consideration by Congress, could only advance the feasibility of coal liquefaction.

Development of synthetic liquid fuel from coal is probably the best prospect for alleviating our dependence on expensive imported energy. Although production of synthetic natural gas may be cheaper, it has limited uses. Likewise, oil extracted from tar sands and shale are more practical alternatives, but are severely limited in the quantity that can be produced. Liquid synfuel from coal, on the other hand, has the potential to serve as a direct, large scale substitute for foreign oil. In this article, the authors will attempt to synthesize and convey much of the information bearing upon liquid synfuel development, and examine the impact of these factors on United States energy policy.

SOUTH AFRICA

In South Africa the matter of synthetic fuels development was more a question of survival than accounting. That country has no oil of its own, and most oil producing countries have refused to sell to it. Until February 1980, it depended heavily on Iran for its supply. When Iran's new revolutionary government cut off this source, South Africa might have faced crippling shortages. Fortunately, it had had the foresight to anticipate such an eventuality and was prepared. It had previously enacted rigid oil conservation laws and had equipped nearly all of its industry to use coal. Additionally, it had stored a two-year supply of petroleum in abandoned coal mines, and, perhaps most significantly, had become the only nation in the world capable of

[1]David Stockman, "Why the Senseless Rush to Synfuels," **Reader's Digest** (December 1979): 92.



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producing oil from coal on a commercial scale. Its first plant, Sasol I, **opened in 1955,** while its newest plant, Sasol II, began production recently. According to Fluor, Sasol II will produce 58,000 barrels of oil per day. Another plant, Sasol III, is in the early construction stages, with yet another facility on the drawing board. By 1983, when Sasol III should be on line, these three plants will account for 40 to 50 percent of South Africa's liquid fuel needs. Currently, the country satisfies about 5 percent of its energy requirements from Sasol.[2]

THE PROCESS

The process of producing liquid fuel from coal is not new. On paper, the procedure is quite simple, and as early as 1927 (with the development of the "Fischer-Tropsch" process), realistic proposals for full scale production were made in several countries. During World War II, Germany used it to produce aviation and other fuels. However, it was seen as economically impractical in the era of cheap oil after the war.

Needed to turn coal into liquid fuel are three basic materials: coal, oxygen, and water. To produce on an efficient economy of scale, all these building blocks are necessary in massive amounts.

The Sasol process (Figure 1) is, in a very technical sense, not actually coal liquefaction (in which coal is directly hydrogenated to yield a synthetic liquified fuel) because it first gasifies the coal under extreme pressure and heat and then reacts the resulting gas into hydrocarbon chains. These can be refined into gasoline as well as other fuels. The process is closely related to the technology currently used to produce synthetic natural gas and is quite dissimilar to direct hydrogenation technologies.

Direct hydrogenation of coal to synthetic "crude" is a potentially cheaper method than the more indirect Sasol process, but it has yet to be implemented on a large scale. In 1937, Germany, perhaps realizing that a war would make critical oil supplies difficult to obtain, constructed a number of plants that directly hydrogenated coal into liquid fuel. By 1943, 12 plants were producing at a combined annual rate of 4 million metric tons (or 27 million barrels), not a large figure by today's standards. Meanwhile, even though some basic research was underway in the United States, it yielded no commercial production.

After the war, however, oil was cheap and plentiful and no effort was made to translate the Germans' success into larger scale production of synthetic fuel (ironically, a 1946 estimated cost of $3.00 to $4.00 per barrel for synthetic oil was prohibitive at the time![3]) Although some debate continued, little if any investigation into direct coal liquefaction took place. Meanwhile, South Africa pursued indirect processes, achieving a substantial commercial scale with the opening of Sasol II in 1980.

Understandably, debate concerning coal liquefaction in the United States centers around several points. Foremost among them are costs (and the reliability of cost estimates) and the technical and business risks incurred in rushing into commercial scale production.

Sasol (South African Coal, Oil, and Gas Corporation Limited), through Fluor, is eager to sell its indirect process technology in the United States. It can validly claim that Sasol costs can be more reliably estimated (than other processes) and that experience in planning, constructing, and operating a plant already exists.

Potential investors, however, are not as yet beating down the doors to buy the Sasol technology. Many are awaiting the results of direct liquefaction projects currently at the pilot or demonstration stage. Researchers estimate that a direct liquefaction facility would require a smaller investment than the indirect method and would produce liquid fuel at a lower cost per barrel. Unfortunately, the technology is not fully developed at this time, and anyone currently attempting to construct a commercial volume facility runs the risk that it simply won't work. This is because factors easily controlled in the laboratory or at the intermediate "demonstration" level are not as easily or economically manipulated on a larger scale.

COST ESTIMATES

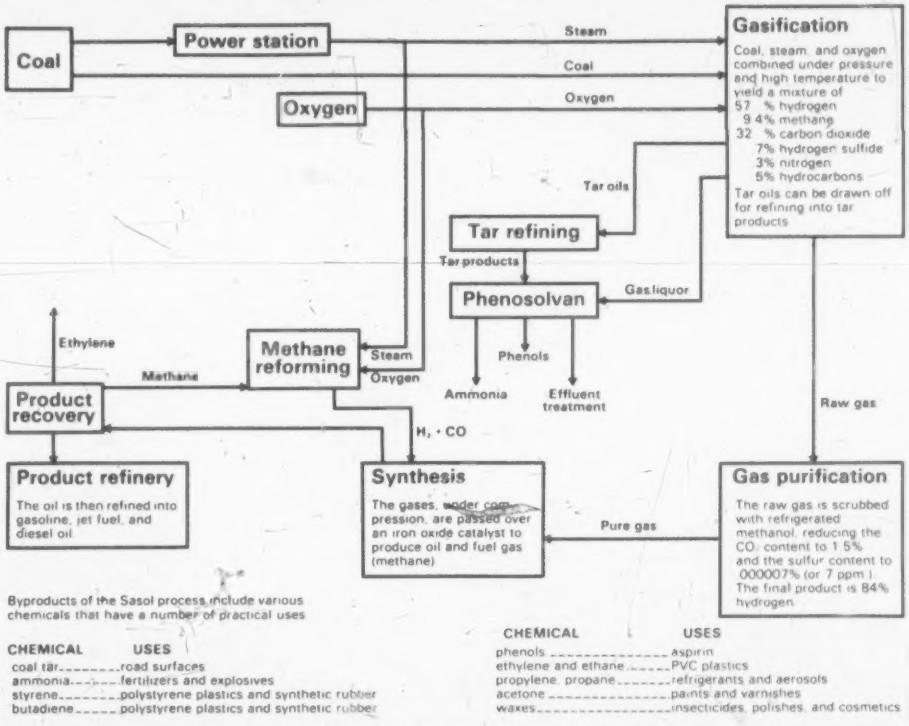
As Samuel says, cost depends on how one does one's accounting. Thus, it is not surprising that cost estimates for almost every aspect of coal liquefaction vary widely. Nevertheless, some figures are worth noting.

Sasol II, which will soon produce about 60,000 barrels of transport fuel per day, cost about $3 billion to construct, with the necessary support

[2]"Energy Wisdom — No Oil S. Africa Copes in Unique Ways," **The Houston Post**, 16 December 1979.

[3]Sandra Clingan, "In Whose Best Interest? Synthetic Liquid Fuel Policymaking," **Studies in Economic Analysis**, Fall 1979.

FIGURE 1. Converting Coal into Gasoline (Fischer-Tropsch Method)


Coal
Power station
Steam
Coal
Oxygen
Oxygen
Gasification
Coal, steam, and oxygen combined under pressure and high temperature to yield a mixture of
57 % hydrogen
9.4% methane
32 % carbon dioxide
7% hydrogen sulfide
3% nitrogen
5% hydrocarbons
Tar oils can be drawn off for refining into tar products
Tar oils
Tar refining
Tar products
Gas liquor
Phenosolvan
Ethylene
Methane
Methane reforming
Steam
Oxygen
Phenols
Ammonia
Effluent treatment
Raw gas
Product recovery
H, + CO
Product refinery
The oil is then refined into gasoline, jet fuel, and diesel oil
Synthesis
The gases, under compression, are passed over an iron oxide catalyst to produce oil and fuel gas (methane)
Pure gas
Gas purification
The raw gas is scrubbed with refrigerated methanol, reducing the CO2 content to 1.5% and the sulfur content to .000007% (or 7 ppm). The final product is 84% hydrogen
Byproducts of the Sasol process include various chemicals that have a number of practical uses
CHEMICAL USES
coal tar road surfaces
ammonia fertilizers and explosives
styrene polystyrene plastics and synthetic rubber
butadiene polystyrene plastics and synthetic rubber
CHEMICAL USES
phenols aspirin
ethylene and ethane PVC plastics
propylene, propane refrigerants and aerosols
acetone paints and varnishes
waxes insecticides, polishes, and cosmetics

facilities adding another $80 million. Fluor estimates that a comparable plant, located in Wyoming, Colorado, or New Mexico, would have an installed capital cost of 3.6 billion 1980 dollars. On the other hand, Cameron Engineers, a division of the Pace Co., estimated (for the Senate Budget Committee) that a 50,000 barrel/day direct liquefaction plant would entail an outlay of only 2.1 billion 1980 dollars, and that a hydroliquefaction (direct liquefaction) plant would cost only 1.9 billion.[4]

Given that Sasol and Fluor are trying to sell the indirect liquefaction technology and, consequently, would take care not to overstate the costs, one might reasonably suspect that the Budget Committee figures are unrealistically low. This is a particularly reasonable assumption when one considers that Cameron qualifies its estimates of the cost of a direct liquefaction plant by noting that such facilities have the least achievable cost reliability of any of the plants they analyzed since the process has not been demonstrated on an adequate scale. Thus, they end up recommending that cost estimates for such facilities contain as much as a 50 percent contingency allowance, rather than the usual estimating variance of approximately 15 percent. Operating costs also present a similar problem. The lack of a reliable cost per barrel of oil estimate thwarts profit forecasts, break-even analyses, and other desired preinvestment computations for direct liquefaction facilities.

In a February 1980 speech, J. Robert Fluor, Chairman of Fluor Engineers and Constructors, estimated that by 1985 a commercial scale direct liquefaction plant could produce at a cost of $48 per barrel of crude oil equivalent synfuel. This estimate allowed for 10 percent inflation in input costs through 1985. In the budget report, Cameron Engineers estimated the necessary selling price of the indirectly produced synthetic fuel at 35 to 39 1979 dollars versus a cost for the direct, or hydroliquefaction, process of 24 to 38 1979 dollars per barrel. Allowing for about an $8 per barrel expenditure necessary to bring the product to a quality equivalent to crude oil, Cameron's estimates are close to Fluor's. Cameron acknowledges that these costs are vulnerable, primarily because first-of-a-kind projects typically come in at a cost about 30 percent above original estimates. Indirect liquefaction (the Sasol process) is exempt from the

[4]Cameron Engineers, "Overview of Synthetic Fuels Potential to 1990," in **Synthetic Fuels — Report by the Subcommittee on Synthetic Fuels of the Committee on the Budget, United States Senate,** 1979, p. 151.

proviso, as the construction and operation costs are relatively certain.

Another obvious factor that will affect synfuel cost estimates is the rapidly rising price of coal. Since coal is a substitute for oil, demand for coal increases as OPEC crude oil prices rise. Naturally, coal prices rise with demand. Also, if the United States ever reaches a target of 2 million barrels per day of coal-derived synfuel, the coal industry will have to expand its current production by 50 percent just to satisfy coal conversion plants. This is especially sobering when one realizes the Congressional Budget Office estimated that with effective conservation incentives, United States oil imports will still be 8 million barrels per day in 1990 even if we reach our current synfuel target. In other words, coal production will have to increase 50 percent to reduce our oil imports by just 25 percent.

Finally, as demand for high technology equipment for synfuel plants increases dramatically, a phenomenon known as hyperinflation can occur. A sudden increase in demand results in (1) longer delivery times which escalate contingency allowances covering possible increases in supplier costs and (2) delayed plant start-ups. To prevent this, project owners are willing to bid up the prices of crucial equipment to save time; as a result, inflation occurs.

Assuming a measured course of development in the synfuels industry, the authors believe that hyperinflation will not be a significant factor because lead time between planning and installation of major equipment ought to be sufficient to allow suppliers to anticipate demand and adjust capacities. This assumes the United States moves into coal liquefaction in a deliberate manner. However, in the event of a "crash program," such as an attempt to achieve 2 million barrels per day of synfuels within, say, 5 years, hyperinflation becomes a relevant consideration. Estimates center around a 30 percent increase in total costs to be encountered in an emergency synfuels development program. The Cameron report compares such an effort to the synthetic rubber program of World War II, but then closes with the statement, "The magnitude of a crash synthetic fuel program would, however, be many times that of the synthetic rubber program."[5]

As mentioned above, one final qualification of the per unit cost figures is that the cost figures cited in the Budget Committee's report do not include necessary expenditures to convert the synthetic fuel to the qualities of natural crude oil entering refineries. Frank Culberson, President of the Rocky Mountain Division of Pace Company Consultants and Engineers and an author of the Cameron report, estimates that another $8 per barrel of oil must be spent to derive synthetic fuel from the Fischer-Tropsch (Sasol) method (one of the higher quality synthetic products). This consideration yields a better estimate of the price at which synthetic liquid fuel from this process becomes feasible, i.e., $45 per barrel of oil.

ENVIRONMENTAL FACTORS

A commercial-scale fuel plant is a huge operation. The Sasol II plant, which is similar to any Fischer-Tropsch facility that would be built in the United States, uses about 25,000 tons of coal per day. It also requires 13,000 tons of oxygen per day, which must be separated from the air. Sasol II accumulates 10,000 tons of ash each day. According to the U.S. Department of the Interior, a plant similar to Sasol in the United States would consume between 6,000 and 15,000 acre-feet of water per year, or about 1/3 to 1/2 that of a 2,000 megawatt coal fired electric energy generation plant. Because of their scale, all of these requirements translate into constraints.

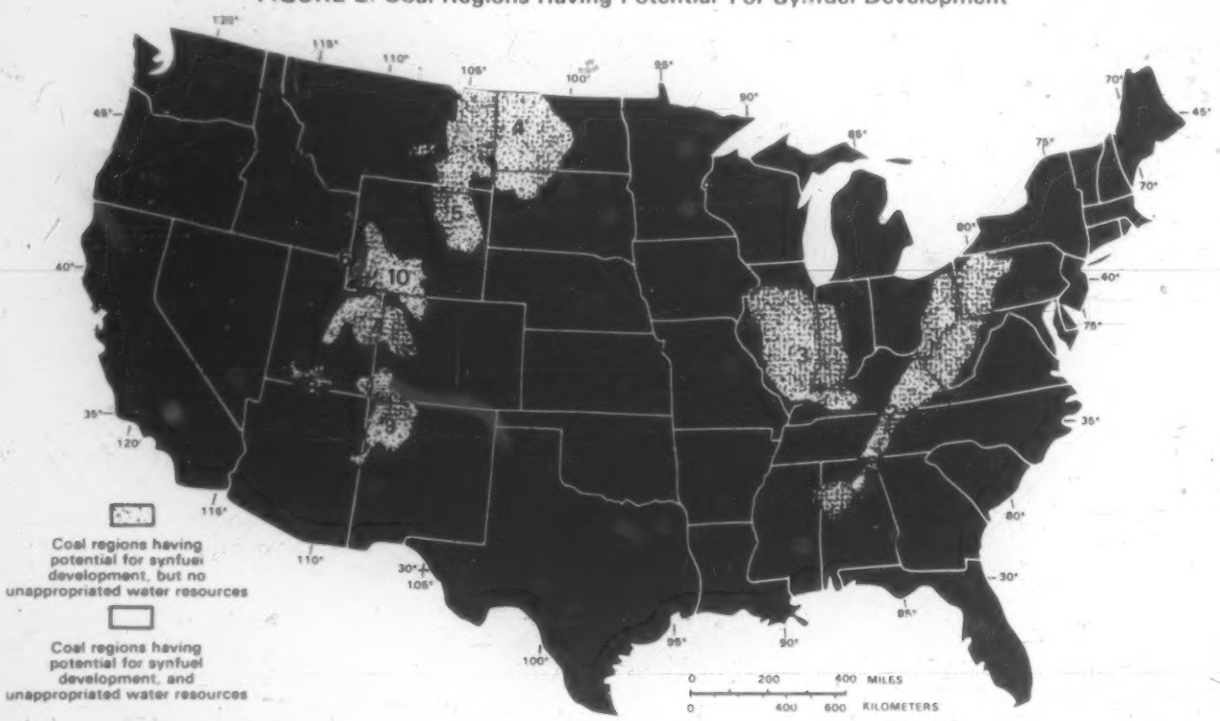
The Department of the Interior has catalogued several regions as having the potential for coal synfuel development. This list, as well as potential sites within the regions may be further constrained by nonsupply related environmental factors (Figure 2).[6]

The Northern Appalachian region is known to have coal and water supplies in more than adequate quantities for synfuel production. A major constraint, however, is the difficulty of controlling acid mine drainage in an area already severely affected by this problem. Acid mine drainage results whenever iron sulfide minerals in coal beds and spoil areas are exposed to oxygen in flowing water. The minerals are oxidized, forming sulfuric acid. Although almost all coal beds contain iron sulfide minerals, the contents differ from bed to bed as does ground-water flow. Consequently, acid mine drainage may be more severe in some regions than in others. In the Northern Appalachian region, as well as in the Eastern region, acid mine

[5]Ibid., p. 192.

[6]U.S., Department of the Interior, U.S. Geological Survey, **Synthetic Fuels Development: Earth-Science Considerations**, 1979.

FIGURE 2: Coal Regions Having Potential For Synfuel Development


4
5
10
9
3
Coal regions having potential for synfuel development, but no unappropriated water resources
Coal regions having potential for synfuel development, and unappropriated water resources
0 200 400 MILES
0 400 600 KILOMETERS

drainage degrades thousands of miles of streams. Another constraint related to Northern Appalachia is that much of the better coal is already committed to the metallurgical or power industries.[7]

The Eastern region, comprising much of Illinois, western Indiana, and the northwestern edge of Kentucky, is also abundantly rich in coal. Unfortunately, it suffers from the same acid mine drainage problem as the Northern Appalachian region. Moreover, much of this coal is also already committed to the metallurgical and electrical power industries.[8]

The Southern Appalachian region, stretching from eastern Kentucky to Alabama, offers another possible location for synfuel plants without the severe threat of acid mine drainage. Its only serious constraint is that, like the previous two regions, much of its coal is already committed.

In the West, the Fort Union region (mostly in North Dakota) and the Powder River region (in eastern Montana and Wyoming) provide other possibly attractive locations for synfuel production. One drawback is that coal beds are valuable aquifers (water bearing deposits) in these regions. Mining, which would remove part of the aquifer, could disrupt water supplies and degrade water quality. The thickness of the coal beds in these areas also post difficulties for underground mining.

The Hams Fork region, a small area in southwest Wyoming and Utah, contains sufficient resources for potential synfuel development. Again, the only significant drawback is that coal resources are largely committed.

The Uinta, Southwestern Utah, and Green River regions, spread over Utah, southern Wyoming, and Colorado, contain sufficient coal resources for a number of synfuel facilities. However, more site-specific geological research will have to be done there before plants can be located.

Finally, the San Juan region in northern New Mexico and Colorado contains sufficient coal reserves for synfuel production. Unfortunately, water is virtually unavailable in some parts of this region, but feasible sites may be available in the remainder of the area.[9]

Although these regions do not encompass the only conceivable synfuel sites, they are based on the presence of adequate coal on-site to run the

[7] Ibid.

[8] Ibid.

[9] Ibid.

facilities. It is possible, of course, to locate synfuel facilities elsewhere, but transportation costs and logistical problems economically prohibit siting of a synfuel facility outside of a coal region. Presently, to service the large surface mines in the west, railroads have resorted to "unit trains" which consist of about 100 hopper cars of 100 tons of coal each. These unit trains are meeting substantial opposition, however, from groups affected by the environmental and social objections the trains create. Consequently, monumental "political" problems might be generated by a proposed synfuels plant whose supply trains would cut towns along their route in half several times a day. Meanwhile, the mere cost of loading, unloading, and hauling must certainly be a great deal more than that of just "spewing" the coal straight out of the mine and into the process as is done at Sasol II.

In summary, according to the Budget Committee report prepared by Cameron, 96 counties in the East and 49 in the West have sufficient reserves to support 100,000 barrels of oil/day of synfuel production for 25 to 30 years. However, allowing for a number of local constraints, such as unavailability of water and proximity to Wilderness Areas, leaves a total of 17 potential sites, all of them in the West.

PRACTICAL AND POLITICAL CONSIDERATIONS

Given the above, these authors feel that synthetic liquid fuel from coal is currently technically feasible and, in the case of indirect liquefaction, commercially feasible and proven by the Sasol experience. Second, the "break-even" cost of Sasol-type coal liquefaction vis-à-vis crude oil is approximately $45 per barrel (1980 dollars), and may be lower for direct processes. Third, at least a few acceptable locations for synfuel plants exist in this country with few, if any, environmental obstacles that cannot be overcome. Furthermore, every barrel of synfuel produced from America's abundant coal supplies reduces its dependence on foreign sources by approximately one barrel. Finally, given the lag times involved in the planning, building, and start-up of a synfuel facility, the product will almost certainly be competitive with natural fuels by the time that facility goes into operation, given continued oil price increases anywhere near the magnitude of those to which we have become accustomed.

Why, then, are investors not rushing to build commercial scale coal liquefaction facilities, with the active and ardent support of the United States government? One clear reason is the amount of capital required. The enormous sum of money which must be invested in a synfuel facility necessarily slows down the pace at which those investments proceed. Implementation time is generally commensurate with the amount of money involved.

Another reason for delay is attributable to what may loosely be called "the scientific investment process." Before beginning on a commercial scale, processes are usually (1) "bench" or laboratory tested, (2) put into small "pilot" scale operation, (3) turned into a "demonstration" scale project, and (4) eventually built into a commercial facility. In the case of coal liquefaction plants, examples of the above include a 30 lb. per hour bench scale test developed by Lummus Co. and the Department of Energy at a cost of $4.7 million, a 250 ton per day large pilot plant managed by Exxon and financed by a consortium at a $240 million cost, and a 6,000 ton per day demonstration plant, using the SRC-II hydroliquefaction process, managed by Gulf and costing over $2 billion.

Although Sasol technology is curently available, direct liquefaction of coal (which looks promising on the pilot scale) possibly offers a less expensive and more efficient process. Consequently, most interested companies, perceiving no particular incentive to rush into production, are willing to wait and develop a successful direct liquefaction process rather than start a facility which could be uncompetitive by the time it is finished.

In September 1979 hearings, the Senate budget committee discussed the implications of a "crash" program in which companies, perhaps in partnership with the government, would go directly into commercial liquid synfuel production. They realized, however, that in such a case the government would have to assume the risk of current technology's becoming obsolete or, far worse, the completed commercial scale facilities' failing to operate as a result of the option not to adhere to the usual stages of testing just mentioned. This is precisely what happened when Sasol I was opened in 1955. The reactors simply didn't work and it was not until five years later, when the company had developed an entirely new catalyst, that it learned how to get the two initial reactors into reliable commercial production. If this were to occur today (which is possible if a direct liquefaction plant is developed too hastily as part of a crash program), the result would be a financial disaster. To preclude such an occurrence, unperfected technology, though possibly superior to existing processes, would have to be excluded from any production program implemented in the near-term.

Another reason many companies have been going slow on coal liquefaction might be that they were waiting for an adequate package of government incentives. Currently, the $88 billion synthetic fuels program Congress passed in 1980 includes approximately $10 billion for support of six demonstration projects (including two coal liquefaction plants) and $20 billion in loan guarantees and price supports over the next five years, with the possibility of an additional $68 billion, subject to Congressional approval, for the subsequent development of synfuels.

Recently, White House Budget Director Stockman mounted a campaign (as part of his push for spending cuts) to reduce support for the research and development projects and to slice the $20 billion figure to $12.2 billion by eliminating funds administered by the Department of Energy. Further, his proposal makes no mention at all of the $68 billion in follow-up funds.

The budget proposed by Secretary of Energy James B. Edwards includes funds for continued research into areas in which the administration has determined that risks are too great for the private sector to assume. Funding for projects deemed "ready for commercialization," however, will be terminated. A major but subtle policy shift has occurred here. "Demonstration" scale is now considered "commercial" even though such facilities have capacities well below maximum economies of scale. Arguments for abandoning the demonstration level plants are based on the assumption that such projects are close enough to yielding a return, and now possess sufficiently low technical risk, to justify total private investment.

Developers of these and other projects can submit proposals to the Synthetic Fuels Corporation for funding. The corporation will eventually have the authority to issue up to $17.5 billion in loan guarantees, price guarantees, and/or purchase guarantees. Alternately, the corporation may invest some of these funds in joint ventures with private developers.[10] Given proper management by the corporation, however, all of the money should be recovered (or never paid out). Equity participation, which is given the lowest priority, is restricted to not more than 60 percent of a project's cost, and must be sold off within 5 years.

As of March 27 of this year, the Synthetic Fuels Corporation had received 10 proposals and was anticipating several more. Of those 10, 5 were for coal liquefaction projects and at least 3 of the 5 were direct processes.

Although there are no formal criteria for evaluating the projects, Betsy Wilshire, speaking for the Synthetic Fuels Corporation, says that, in the beginning, low risk, proven technologies will take precedence in order to avoid any early losses. Nevertheless, the corporation must adhere to a legislative mandate to support a diversity of technical processes.

In essence, the Reagan administration's synfuel policy differs from its predecessor's only in its withdrawal of direct support for a project's development at an earlier stage, with far less sweeping cuts (or savings) than the budget official's early rhetoric would have indicated. However, by eliminating the "duplicative" Department of Energy funds, the administration may have created a gap, forcing private investors to decide whether or not to commercialize projects that are not quite as proven as they otherwise might be. One project, the SRC-II plant in Morgantown, West Virginia, is already endangered. With the DOE withdrawal of its 50 percent support, the German and Japanese governments, who were each participating as 25 percent partners, are seeking to "find a quiet, face saving way to bury the whole thing." The Reagan administration's rationale is that the project is sufficiently developed to attract private investors. The Germans and Japanese are getting out because they do not want to bear the risks and rising costs alone. Meanwhile, no private investors, including Gulf Oil, the project manager, have stepped forward to take over the project.[11] If administration officials are correct in eliminating the distinction between "demonstration" and "commercial" scale stages, then the funds that were cut were truly redundant. If the administration is proven wrong, however, a number of worthwhile projects may be postponed for the foreseeable future.

The case for budget cuts is well known, but the opposing case for continued support of synfuel is also very sound. Research and development is expensive, and such investment is difficult to project. The necessary research costs for a first-of-a-kind synfuel facility may exceed the capital expenditure on the facility itself. On the other

[10]This amount includes $6 billion made available upon enactment of Public Law 96-304 on July 8, 1980. Another $6.2 billion will become available on June 30, 1982. Finally, the amount includes $5.3 billion allocated to the Department of Energy for the same purpose, which will be transferred to the Synthetic Fuels Corporation on June 30, 1980.

[11]"The Quiet Burial of a Synfuels Plant," **Business Week**, 13 April 1981.

hand, the second generation of facilities, built on the accumulated knowledge of the first, will be far less costly, because the owners need not spend nearly as much on research and development. Consequently, the return on investment for a first generation synfuel facility will be considerably less if a company must bear the cost of research.

The federal government's obligation created by price guarantees for liquid synfuel is not subject to technical risks associated with the success or failure of the particular processes employed, or any other usual business risks. Rather, the amount the government must put out is directly contingent upon the price of oil (which is largely determined by OPEC). If crude oil prices are sufficiently high, synfuel will be economically viable and the government will suffer no expense. However, should the price of oil be lower than this "crossover" point, as in the case of OPEC's easing its prices to undercut the synfuels industry, the broad economic benefits of lower oil prices will offset the government's expenditure. To expect private industry to bear the risk of being undercut by OPEC (with little consolation from the "broad economic benefits" mentioned above) would be both unfair and unwise. It's unlikely that private industry will accept such a gamble. Rather, it will forestall making commitments until it is sure oil prices are sufficiently high to justify the investment. If, for some reason, industry elected to take the risk, exposure to world oil price manipulations would represent a Sword of Damacles.

The South African experience provides a lesson in just how well coordinated government support of the synfuels industry can work. In addition to the 19 cents per gallon subsidy for domestically produced transportation fuels, they employ a mechanism by which domestic fuel prices are tied (through a formula) to world crude oil prices. Hence, as world oil prices rise, so do Sasol profits. As a result of this approach, South Africa expects to become a net **exporter** of energy by 1985.

Ironically, Sasol may stand to benefit from any substantial United States cutback in synfuel research support. Because the Sasol technology is ready, American companies can purchase its expertise and commence construction of a facility relatively quickly. This option becomes more attractive as the costs of research which must now be privately shouldered begin to outweigh the benefits of waiting for a cheaper and more efficient technology to become commercially feasible.

Another source of concern in the current synfuels development situation is the heavy involvement of cash-rich oil firms. Many critics feel these firms are trying to obtain a pre-emptive influence over a potentially competitive industry.

Logically, the oil companies do not suffer when OPEC prices rise, because to a significant extent they are able to maintain their margins by merely raising their prices. This is largely due to the careful monitoring of world oil quantities by the OPEC nations, and the relatively inelastic short-term demand for energy. Given this situation, the oil companies have little incentive to accelerate or hasten synfuel development **in the short-term.**

Another somewhat intangible but crucial consideration is the value to United States security of an alternative domestic source of gasoline. It would be extraordinarily difficult, if not impossible, for the United States to match its projected import needs with domestic synfuel production in this century. Nevertheless, an ability to mitigate oil squeezes by a combination of conservation measures, stored fuel, and synfuel production may substantially relieve the threat of oil cut-offs being employed as a political weapon by OPEC nations. As we noted earlier, it was only the significance attached to this consideration that recently saved South Africa from falling into a very desperate situation.

The OPEC countries are conscious of their power, and their occasional alarm over developments surrounding the U.S. Strategic Energy Reserve indicates that they conceive of their ability to create a crisis as a necessary or useful device. To this end, Saudi complaints about additions to the reserve have been aimed at delaying its full implementation. OPEC is certainly cognizant that greater United States energy independence implies a corresponding loss of their control. As it did in South Africa, synfuel development could offer some insulation from our vunerability to OPEC pressure.

SUMMARY AND CONCLUSIONS

Coal liquefaction technology in the form of the Sasol process is commercially feasible even though somewhat better methods may be ready soon. The requirements for a coal liquefication facility — mainly, large amounts of coal and water — can be met at a number of locations in the United States. It will take at least five years for a plant to go on line, by which time synfuel will likely be economically competitive.

The authors are convinced that government support for synfuel research and development and **price supports** are absolutely necessary if this promising route to increased energy independence

is to be exploited in a timely manner. Continued vulnerability to external political influence and the destabilizing effect of chronic foreign exchange deficits are the price this country will pay for any delay. South Africa has shown that energy independence can be achieved even without a domestic supply of oil. While the United States may be in a less precarious position internationally than South Africa, we can hardly afford not to do whatever is necessary to regain our political and economic sovereignty. In this regard synfuel "seed money" can properly be conceived of as a defense expenditure. We urge the federal government to pursue a two-stage program consistent with the 1980 independence legislation. More specifically, incentives should be distributed to (1) insure subsidization of direct liquefaction research and testing, and (2) to underwrite the economic risks of expeditiously developing the already proven (Sasol-type) technology. This approach appears to be a necessary step toward our becoming master of our own destiny again.

Arguments opposed to government incentives for the synfuel industry generally fail on either the assumption that liquid synfuel will appear immediately upon its becoming an economically advantageous alternative to natural crude oil, or the inadequate weight given to the political and defense implications of continued dependence on foreign crude oil. Clearly, the synfuel development issue is as political as it is economic. Happily, this is one case in which political expedience and economic feasibility are likely to be in harmony.

South Atlantic Outer Continental Shelf Oil and Gas Development: Prospects and Potential Impacts

By H. Wayne Beam

America's insatiable appetite for energy has caused companies that deal with this precious commodity to seek its sources in almost every environment. The continental shelf, that zone around a continent extending from the low water line to the depth at which there is a marked increase in slope to a greater depth, has not escaped exploration and exploitation for the oil and gas reserves it harbors.

Since Mobile Oil Company drilled what is considered the first offshore well off the coast of Louisiana in 1945, exploration for petroleum and natural gas on the more than 8 million square miles of the world's continental shelves and slopes has expanded rapidly to include exploration or drilling or both off the coast of more than 75 nations. Interestingly, more than half of the offshore rigs in operation are working in United States waters.

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THE OUTER CONTINENTAL SHELF (OCS) LEASING SYSTEM

Under the OCS Lands Act of 1953, the Department of the Interior has been charged with administering the mineral development of the U.S. Outer Continental Shelf. In the case of oil and gas development and production, this involves selecting areas for leasing; supervising geological and geophysical exploration; meeting the environmental protection requirements of the National Environmental Policy Act and the Coastal Zone Management Act of 1972, as amended; conducting resource evaluations as a major component of determining the resource's sale price; conducting competitive bidding for the resources; and supervising exploratory drilling and production activities on awarded leases. Within the Department of the Interior, two agencies, The Bureau of Land Management and the Geological Survey, are responsible for the detailed conduct of these activities.

This act requires that oil and gas leases be issued on a competitive bidding basis as follows: (1) sealed bids on the basis of highest cash bonus with fixed royalties, or (2) sealed bids on the basis of highest royalty with a fixed cash bonus.

The Secretary of the Interior is required by Section 18 of the OCS Lands Act, as amended, to prepare a five-year leasing program for submission to Congress, the Attorney General, and the Governors of the affected states. This proposed schedule is a framework used to determine the timing and initiation of individual sale procedures.

Submission of this leasing program is one part of pre-leasing activities that must precede sales and subsequent production. Actually, the process of developing oil and gas resources for the Outer Continental Shelf may be described in five phases: (1) pre-leasing and lease procedures, (2) an exploratory phase, (3) a developmental phase, (4) a production phase, and (5) a shutdown phase. For any given petroleum field, the phases describe a time period that may range from 15 to 40 years.

Table 1 represents the process in terms of development activities over a 25-year period, excluding the 12- to 36-month pre-lease phases. These data show development activities for a single gas and/or oil production field encompassing one or more leased tracts. As can be seen, the phases are not necessarily discrete even for a single field. For example, exploration activities continue even after developmental activities have begun, and production, in turn, begins before exploration is completed.

LEASE SALES OF INTEREST TO SOUTH ATLANTIC STATES

Figure 1 shows the OCS areas of direct concern to South Carolina and other South Atlantic states. The South Atlantic region, with tracts situated on the Southeast Georgia Embayment, was scheduled for lease sales in 1978. This sale, called lease sale 43 by the Bureau of Land Management, offered tracts in the South Atlantic region for the first time (see Figure 2).

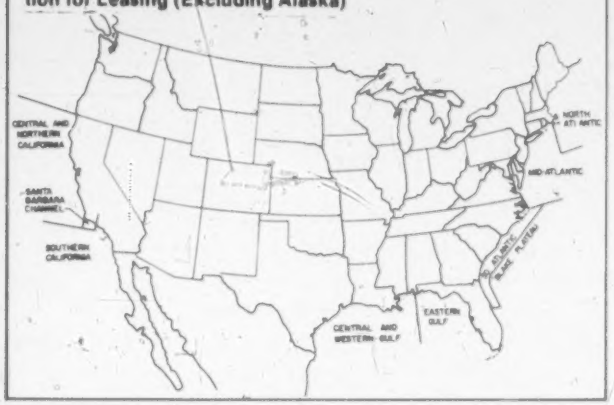
The second sale, lease sale 56, is scheduled for August 1981. The call for nominations area included blocks seaward of the three-mile line (states have jurisdiction out to three miles) generally bounded by the 36.5 degree north latitude line on

TABLE 1. Representative timing of major development and production activities in the OCS oil and gas development process (lease sale to field shutdown for a single field)

PHASE	ACTIVITY	TIME (in years)
1	Lease sale	
2	Exploratory drilling	
	Platform fabrication — installation	
3	Development drilling	
	Pipeline-terminal system	
4	Production	
	Support services	
	Well workovers (including secondary recovery when available)	
5	Field shutdown	

Source: Thomas A. Grigalunas, **Offshore Petroleum and New England** (University of Rhode Island, 1975), p. 32.

FIGURE 1. Outer Continental Shelf Areas Under Consideration for Leasing (Excluding Alaska)



the north, the 28 degree north latitude line on the south, and eastward to the base of the continental slope including the western margin of the Blake Plateau (see Figure 3).

PROSPECTS FOR OIL AND GAS DEVELOPMENT IN THE REGION

Table 2 presents 1975 estimates by the U.S. Geological Survey of undiscovered, recoverable oil and gas resources for selected U.S. OCS areas. Although the South Atlantic area is believed to harbor deposits, estimates of the recoverable amounts appear lower than those for other areas.

Lease sale 43, held in 1978, offered 1,257,273 acres for lease, but only 324,511 acres received bids. The actual acreage leased as a result of this process was 244,807. Primary interest was shown in tracts 70 statute miles east of Brunswick, Georgia, while no tracts off South Carolina's coast received bids by oil companies.

As of 1980, four major oil companies — Tenneco, Getty, Transco, and Exxon — had invested more than $56 million in the search for oil and gas from tracts leased during sale 43. Over $100 million was paid to the federal government for the right to drill off the Georgia coast in an area known as the Southeast Georgia Embayment. Although all six holes drilled by the companies were declared "dry" (see Table 3) and did not result in oil and gas finds, the companies feel that geological data gathered during their drilling effort may prove invaluable for future study of this off-shore area.

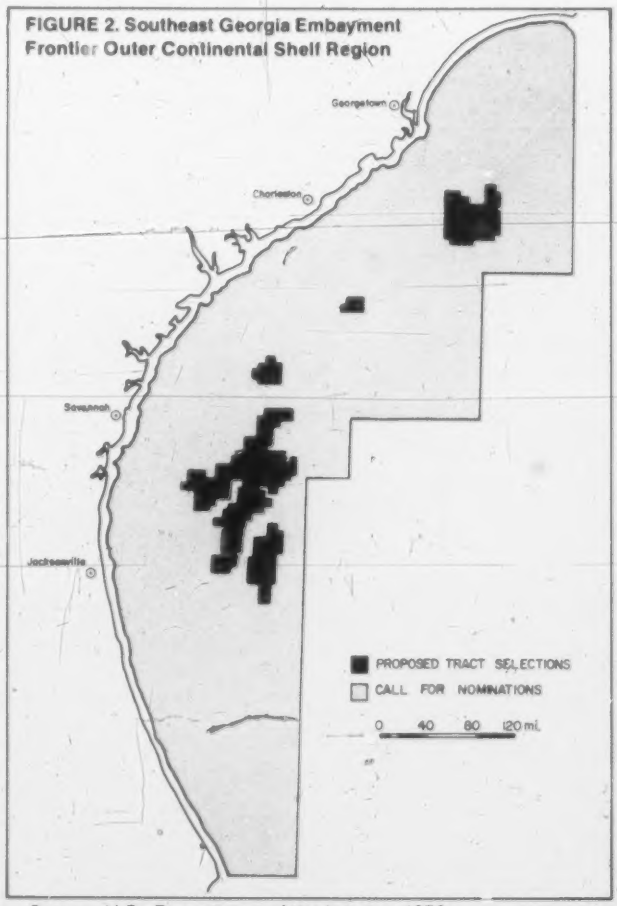
Lease sale 56 marks the first time tracts on the western margin of the Blake Plateau have been offered for lease. This area, with its greater water depths, poses increased difficulty for exploration and production.

This sale, however, has drawn interest from several oil companies. Transco, Chevron, Getty, Exxon, Shell, Mobile, and Tenneco have nominated 5 million acres in 944 tracts for possible lease. Tracts nominated range from 10 to 160 miles from shore, and lie from 66 to 10,500 feet below the ocean surface.

Some of the proposed tracts lie off South Carolina's coast. For instance, some of those depicted in visuals included in the Environmental Impact Statement for this sale lie 150 miles east of Myrtle Beach, 70 miles east of Charleston, 60 miles east of Hilton Head Island, and 40 miles southeast of Hilton Head Island.

The fact that companies are showing interest in tracts offered in sale 56 is a reason for some optimism. Although the industry has been rather disappointed in its nearshore experience in the Baltimore Canyon, Gulf of Alaska, Eastern Gulf, and the Southeast Georgia Embayment, the geology at greater water depths may hold more success.

FIGURE 2. Southeast Georgia Embayment Frontier Outer Continental Shelf Region



Source: U.S., Department of the Interior, 1976.

TABLE 2. Estimates of Undiscovered Recoverable Oil and Gas Resources for Selected U.S. Continental Shelf Areas

Area	Crude Oil[a] (billions of barrels)		Natural Gas (trillions of cubic feet)	
Water Depth of 0-200 Meters	95% Probability[b]	5% Probability[c]	95% Probability[b]	5% Probability[c]
South Atlantic	0	1.3	0	2.5
North Atlantic	0	2.5	0	13.1
South Texas	2.0	6.4	17.5	93.0
Chukchi Sea (Alaska)	0	14.5	0	38.8
Santa Barbara Channel (California)	0.6	3.0	0.7	3.3

Source: U.S. Geological Survey, 1975.

[a]Natural gas liquids not included.

[b]19 in 20 chances that at least the amount estimated is present. An estimate of 0 means that there is a less than 95 percent probability of commercial quantities being present. Such estimates are made for frontier areas because the presence of oil and/or gas has not yet been established by drilling.

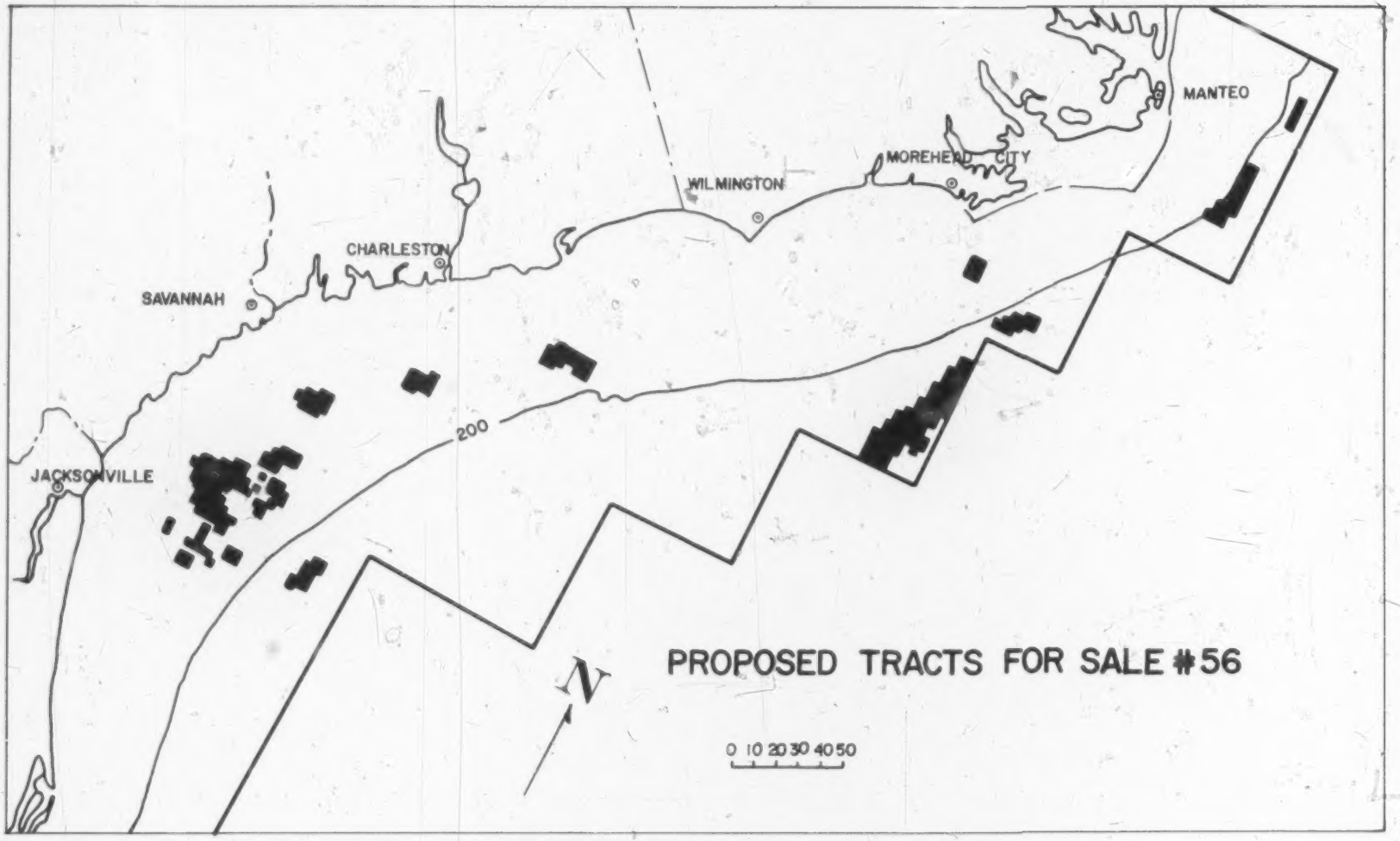
[c]1 in 20 chances that more than the amount estimated is present.

Although the geology of the area may be more attractive to the companies, the greater water depths may make the venture simply not profitable. As in any business, the economics of the situation must dictate the venture. Costs for drilling for oil and gas in depths of water over 1,500 feet rise astronomically. Therefore, the bids made on the tracts later this year will give an indication of the companies' interest in the area in these greater depths.

TABLE 3. Status of Exploration on Southeast Georgia Embayment as of February 1980

Operator	Lease Block	Well Site	Water Depth (feet)	Rig	Spud Date	Final Depth (feet)	Results	Drilling Expenses (millions of dollars)	Payment to Gov't. for Exploratory Block (millions of dollars)
1. Tenneco	208	75 miles east-northeast of Jacksonville, Florida	124	Offshore Mercury	5/29/'79	7,743	Dry and abandoned (first wildcat drilled in the Embayment) 7/9/'79	$3.2	$9.4
2. Tenneco	427	70 miles east-northeast of Jacksonville	97	Offshore Mercury	7/12/'79	7,472	Dry and abandoned 8/15/'79	2.0	6.3
3. Getty	913	40 miles offshore Brunswick, Georgia	115	Offshore Mercury	8/17/'79	7,000	Plugged and abandoned 9/16/'79	2.6	3.1
4. Transco	1,005	95 miles east-southeast of Brunswick, Georgia	134	Offshore Mercury	9/19/'79	11,635 (total vertical depth = measured depth)	Dry and abandoned 12/10/'79	5.2	7.9
5. Exxon	472	55 miles east of Jacksonville, Fla.	115	Global Marine (Glomar) Semi-I	10/10/'79	7,578	Dry and abandoned 11/20/'79	3.6	5.8
6. Exxon	564	70 miles east of Jacksonville, Fla.	145	Global Marine (Glomar) Semi-I	11/19/'79		Dry and abandoned 2/12/'80	6.6	.4

FIGURE 3. Proposed Tracts for Sale 56



There is a further consideration. The industry must examine all areas of possible oil and gas production and invest its capital where the likelihood of success is greatest.

POSSIBLE IMPACTS

Environmental impacts of OCS oil and gas development for a given lease sale are assessed in an Environmental Impact Statement (EIS) prepared by the Bureau of Land Management. This EIS becomes the document upon which a final decision is based as to whether or not the sale will be held.

Of great importance to the affected coastal states is the impact (environmental, economic, and social) activities on the continental shelf will have upon them. The exploratory phase is a critical point for impact assessment, since any further activities will depend on the discovery of marketable, recoverable reserves of gas or oil. In itself, however, this phase contains relatively small potential for major onshore and nearshore impacts. Most activity will take place on the OCS, on exploratory rigs, or on drill ships which are supplied by helicopter and small vessels from the ports and other onshore staging areas.

Current impacts from sale 43 relate to exploratory operation bases in Savannah and Brunswick, Georgia. Exploratory bases for sale 56 are expected to center on Savannah and Brunswick for the Southeast Georgia Embayment area. Morehead City, North Carolina, could also serve as a staging area for exploration of tracts further to the north. Chicago Bridge and Iron Company has purchased a site on the Colleton River in Beaufort County, South Carolina, for the possible fabrication of platforms for the production phase of both lease sales. However, recoverable amounts of oil and gas must, of course, be located before production of platforms for the South Atlantic area is feasible.

It is anticipated that less than 2 percent of the Bureau of Economic Analysis (BEA) employment projections for these areas will result from the two sales. There is the possibility that infrastructural stresses in local communities could develop should actual production commence. The probability of a requirement for gas processing plants seems greater than that for new oil refineries if commercial quantities of the resources are found.

Several oil refineries are already proposed for the region. Plans are for refining facilities to be located in Brunswick and Carteret Counties, North Carolina; Georgetown County, South Carolina; and Chatham County, Georgia. Development of the refineries does not appear to be tied to anticipated production from the South Atlantic OCS area, but rather the crude oil to be refined might come from foreign instead of domestic sources.

COPING WITH THE IMPACTS

Given the nation's growing energy needs and the awareness of the necessity to become less dependent on other nations for its energy, the United States has adopted a policy to accelerate oil and gas development for the OCS to help mitigate the effects of this policy. The Federal Coastal Zone Management Act was amended in 1976, and one of the amendments established the Coastal Energy Impact Fund (CEIP). The program was established to assist states and local communities as they experience the onshore and offshore impacts of coastal energy activity and to encourage them to cope with the impacts in a manner consistent with the state's developing coastal management program. During the 10-year authorization for the program, $855 million in federal money may be made available to coastal areas to help them prepare for, and meet, their needs resulting from facilities and activities that provide energy to the nation. Through 1980, South Carolina had received allocations of $325,000 in planning grants, $1.25 million in formula grants, and access to a national pot of $38 million in loan and bond guarantees.

The state of South Carolina became better prepared to cope with impacts of coastal energy development by enacting two statutes in 1977. The first, the Oil and Gas Act, sets regulations for production of oil and gas and its transportation within the state's territorial limits. The State Coastal Zone Management Act authorizes the preparation of a comprehensive coastal management program to include provisions for administering pipeline corridors within the coastal zone. More importantly, since South Carolina has a federally approved coastal zone management program, activities by federal agencies, including the Department of the Interior, must be judged consistent with the state's plan before they can be initiated. Therefore, activities by these agencies on the OCS come under the scrutiny of the state's coastal zone management program.

CONCLUSION

The United States government, through its Department of the Interior, has offered the continental shelf of the South Atlantic region for exploration and possible production of oil and gas.

The actual impact this action may have on the state's energy picture remains unclear.

The actual timing of development and the impact this activity might have on affected coastal states is dependent upon several factors. These may include: lease award date; oil prices to include the effect of deregulation by the Reagan administration; seabed configuration; weather; costs and success rate of exploratory drilling; availability of, and competition for, capital; availability of skilled manpower and materials; equipment delivery schedules; regulatory delays; and, of course, chance. It is important to remember that all subsequent development activities are predicated on the discovery of marketable quantities of oil or gas during the exploratory phase and the volume of resources found. Therefore, until recoverable resources are discovered in the South Atlantic area and fields identified, all analysis of OCS development activities' impacts must be qualitative and tentative.

The Potential for Alternate Energy Sources in South Carolina's Energy Future

By John M. Sharp, Kevin R. Madigan, and Torgny J. Vigerstad[1]

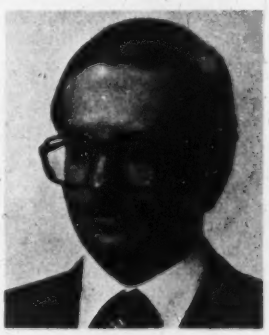
As an energy producer South Carolina is a have-not state. In 1978, about 3 percent of the state's energy came from local hydroelectric power sources; 97 percent was imported from other states and countries. This state produces a smaller percentage of its energy from local resources than do the countries of Japan or West Germany.

To help resolve this problem, the South Carolina Energy Research Institute (ERI) maintains an ongoing research program in energy resources indigenous to South Carolina. We have actively studied wood, ethanol (from corn and other carbohydrate feedstocks), peat, and municipal solid waste as potential energy resources. In addition, we have several programs on more efficient energy use: in particular, the recovery of energy from waste heat.

[1]The South Carolina Energy Research Institute (ERI), founded in 1977 under the leadership of Governor James B. Edwards, is a private, nonprofit corporation. Supported by government and private research and consulting contracts and by private-sector contributions, ERI focuses on improving the efficiency of energy use, on developing indigenous energy resources, and on analyzing energy problems and opportunities, including public information activities. Its ultimate goal is to improve the state's ability to manage its own energy problems.

Dr. John M. Sharp is Branch Chief of Projects for the South Carolina Energy Research Institute. He received his undergraduate degree in Chemistry from Carson-Newman College, and did his master's and doctoral work in Sociology at the University of North Carolina. Dr. Sharp has been project manager for major studies in waste energy recovery and in the potentials for nuclear energy centers, and was coinvestigator on two studies that explored the potential for wood as an industrial fuel in South Carolina.

Kevin R. Madigan received his undergraduate degree in Mechanical Engineering from the University of Maryland and his M.S. Degree in Engineering from Stanford University. Before coming to ERI, Madigan worked for five years for the U.S. Department of Energy. At ERI, he was Project Manager for a major statewide assessment of the feasibility of large-scale ethanol-from-carbohydrate production. He is now working on two municipal solid waste studies, as well as advising a client on ethanol plant options.



Dr. Torgny J. Vigerstad is primarily responsible for studies involving the assessment of biomass resource bases in South Carolina. He earned his B.S. Degree in Biology at Upsala College, and did his master's work in Zoology and his doctoral work in Biology at the University of Rhode Island. Dr. Vigerstad has been Project Manager for four studies on different aspects of wood as an energy source in South Carolina, and is Project Manager for an ongoing DOE-sponsored peat resource assessment project.

Recent in-state energy usage is the backdrop against which these authors examine the alternate energy resources available in South Carolina. We consider both their general characteristics and the specific opportunities for using them.

CURRENT ENERGY USE IN SOUTH CAROLINA

South Carolina consumed an estimated 991 trillion BTU of energy in 1978. Figure 1 categorizes South Carolina's energy consumption by energy resource. Energy used to produce electricity makes up the single largest category, i.e., 40 percent of the state's total 1978 energy usage. In addition, petroleum products (including fuel oil and gasoline) make up 43 percent of the state's energy use; natural gas and nonutility coal usage contribute a smaller share.

While electricity is a product sold directly to consumers, the electric utilities act as middlemen using energy resources to generate the product. Figure 1 also breaks down by fuel the resources used by the major utilities in the Carolinas. The total energy allocated to the state (401 trillion BTU) is proportional to the share of these utilities' electrical sales in South Carolina. Coal is the major fuel used by the central utilities, with nuclear fuel playing an increasing role; hydroelectric generation and nonsolid fuels have a smaller share. Hydroelectric power currently produces the cheapest electricity, but few good sites for major dams remain. The utilities and service commissions have concluded that, in most cases, large coal and nuclear plants offer the cheapest methods of power generation to meet growing electrical demands. Only in special circumstances can other sources, including renewable fuels and solar energy, offer cheaper cost power generation.

One such special circumstance occurs for industries (synthetic textile producers, for example) that require large, constant quantities of low-pressure steam. Such industries frequently can produce high-pressure steam to drive an electric turbine, and they can then use the cooler steam coming from the back end of the turbine for their process heat needs. If the demands are balanced, the industry finds it can produce both electricity and low-pressure steam from the same boiler for in-plant use. The cost is less than that of making only low-pressure steam and buying electricity from the utilities. Currently, about 5 percent of the state's industrial electricity is generated by this cogeneration process. The industry can fuel its boiler with the preferred fuel, which can be coal, oil, natural gas, or even wood or peat.

Figure 2 shows energy consumption by the four major sectors of our state: industrial, transportation, residential, and commercial. South Carolina is a heavily industrial state, and the industrial sector uses the greatest share of energy (including electricity). Surprisingly, the residential sector uses a relatively small proportion of the total, though most publicity goes to home conservation efforts. While all sectors have a substantial potential for more efficient energy use, the industrial and transportation sectors offer the greatest conservation opportunities.

Figure 3 illustrates current industrial energy sources. The energy used to produce electricity makes up the largest share of industrial fuels (45 percent). Fuel oils (especially residual oil) and natural gas also contribute a significant share (46 percent). Since 1973, supply interruptions and allocation policies have caused a decline at an annual rate of 9 percent in industrial natural gas usage. In contrast, petroleum product use has increased at an annual rate of 6 percent over the same period. Coal, electrical, and total industrial energy use have only risen slowly (less than 1 percent annually). Since productivity has risen over the same period, these figures reflect increased efficiency in the industrial use of energy combined with increased reliance on petroleum products.

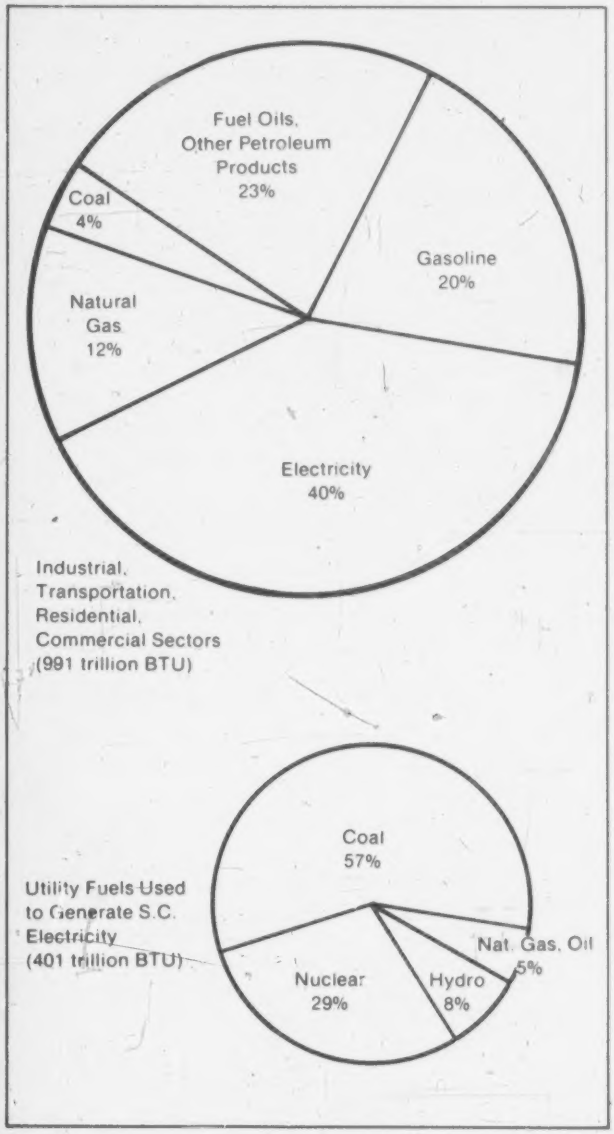
Alternate fuels such as wood, municipal waste, or ethanol are currently not used in sufficient quantity to be considered significant energy resources. When fossil fuels were relatively inexpensive and supplies were secure, energy users were not motivated to burn less convenient fuels. As fossil fuel supplies have become increasingly uncertain and prices increasingly volatile, a prudent energy user may consider the potential of alternate fuels either as primary or backup sources. The general characteristics of those alternate fuels must be taken into account in such an evaluation.

CHARACTERISTICS OF ALTERNATE FUELS

Large scale use of many alternate fuels for energy purposes is relatively new. The characteristics of these potential fuels raise problems, but solutions can be found. The uncertainties of future fossil fuel supplies offer added motivation for seeking such solutions.

No moral imperative exists for a switch to alternate fuels. An energy manager will move in this direction only if the alternate fuels bring an eventual reduction in costs over conventional fuel technologies, or if such a move reduces the risk of losing adequate energy supplies. While these

FIGURE 1. Total 1978 Energy End Use by Type in South Carolina, and the Energy Sources Transformed to Electricity



conditions were not met often in the past, they may now be true for some energy users.

For conventional fossil fuels, nature performed millions of years of work to produce concentrated substances that are high in energy content, low in water, fairly easy to collect, and relatively inexpensive to ship. Transportation networks, processing plants, and distribution centers are already in place.

Alternate fuels lack such characteristics. They are usually dispersed rather than concentrated, and collection is a major cost. They tend to be high in water content (green wood is 50 percent water, bog peat is 90 percent water); without drying, shipping is expensive. Even after water removal, they are usually lower than fossil fuels in BTU content per unit volume, and more transportation loads are required. Getting alternate fuels to a single location in sufficient quantity, therefore, can be expensive.

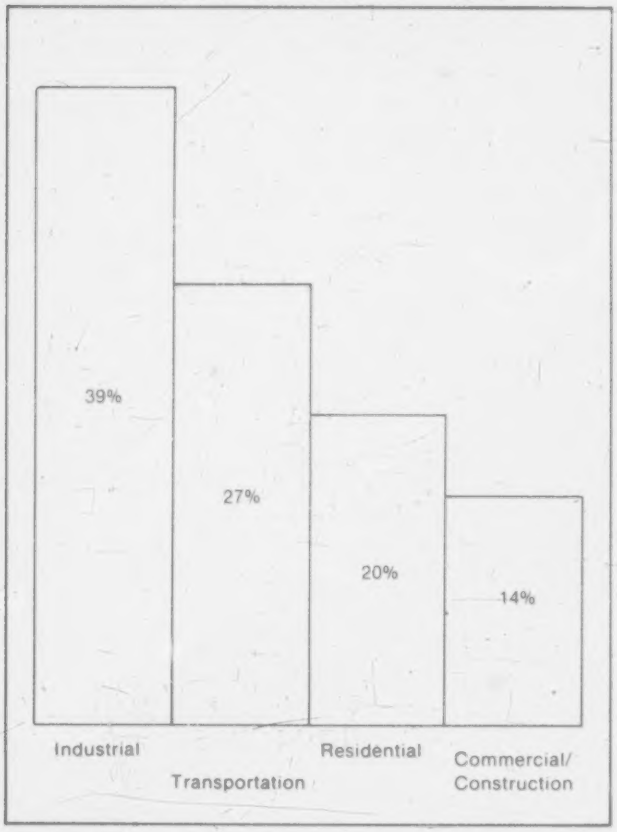
Processing of the raw material may overcome the low BTU characteristics of the potential alternate fuel. Wood can be dried and pressed into pellets to produce a fuel similar to ground coal. Peat can be gasified and the gas shipped by conventional pipelines. The flammable portion of municipal wastes can be shredded and separated to produce a more transportable, sanitized refuse-derived fuel. The resulting fuels are more like conventional fuels, but the processing costs may make them too expensive for practicality.

In general, if the energy demand is small enough to be met by local resources within a short haul distance, and if the alternate fuel can be burned in as unprocessed a form as possible (green wood chips or raw garbage, for example), the fuel is more likely to be an economic resource for the user. For example, 50 miles is conventionally thought to be the maximum economic haul distance for wood, and boilers are available to handle green wood chips as fuel.

Alternate fuels, especially those grown on an annual basis, are frequently characterized by intermittent and interrupted production. The price and availability of grain crops for ethanol production depend directly on the weather and are thus unpredictable. Local wood supplies can be affected by past harvesting, landowners' attitudes, common blights (for example, pine beetles), forest fires, and even rainy seasons that make harvest sites inaccessible. Even municipal waste streams can vary. This intermittent characteristic underscores the need for energy systems such as multifuel boilers which can use a number of energy resources.

Generally, the data bases describing alternate energy resources in a local area are poorly developed. One must often work from average yearly data for large regions. Because of the general need for local fuel and of the intermittent production, such averages can be misleading. Only recently, as the energy potential of alternate resources has become obvious, have better data bases been created. The would-be purchaser of alternate energy technologies may have to survey on his own to be sure that an adequate local fuel supply is available.

FIGURE 2. Total Energy Use by End Use Sector, South Carolina, 1978 (991 trillion BTU total)



Many alternate fuels and feedstocks for making alternate fuels are also used for other products, and even more nonfuel uses may be developed. For example, grades of wood that a few years ago had no commercial value now find their way into particle board and other wood composition materials. Large increases in demand for new nonfuel uses can raise the price of alternate fuels to the energy user.

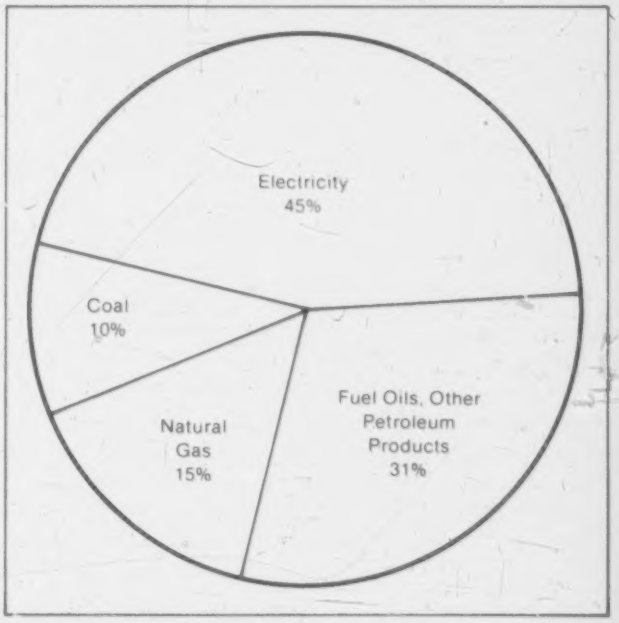
In addition, when a resource that once had no value becomes useful as a fuel, suppliers who formerly gave it away will demand payment. For example, cities are now happy to give garbage away or even to pay to have it removed. As other municipalities become involved in successful waste-to-energy projects, that liability may be looked on as a revenue-generating asset. A pioneer in using waste products may be able to secure low prices initially, but competition will eventually drive them up.

Because such energy uses are new, there is frequently a lack of state and federal environmental standards for using or producing alternate fuels. As a result, industry is apprehensive about using them. In addition, the alternate fuels area is highly political. The popular view suggests that alternate fuels are clean fuels, good for the ecology. However, experience shows that environmental concerns associated with alternate energy sources are overlooked until someone decides to use them on a large scale. The scrutiny they then draw can be as intense as that received by conventional fuels.

Industries may have to develop new investment attitudes if alternate fuels are to play a significant role in meeting near-term energy needs. At ERI we have encountered companies in South Carolina that refuse even to consider alternate fuel investments. They fear to disturb an operation that is working smoothly, or their gas supplies have not been interrupted lately. Such an attitude is dangerous if it prevents consideration of alternatives in rapidly changing times. Unless alternate fuels receive serious examination, they cannot profitably fill those niches for which they are especially suited.

Many industries in the state fail to consider the life-cycle costs of alternate energy technologies. Instead, they make their decisions solely on the basis of initial capital requirements or on near-term returns. In effect, such analyses ignore differential inflation; that is, many alternate energy investments will probably return large savings in fuel costs in later years as conventional

FIGURE 3. Energy Use in the Industrial Sector, South Carolina, 1978 (385 trillion BTU's, with electricity valued at 11,210 BTU/kwh)



fuel costs increase faster than the inflation rate. The failure to consider alternate options is most distressing for the small-scale user, because his energy needs are generally better matched to the alternate fuel potential and he may better control his own energy future through local fuel resources.

There are two factors that make even a sophisticated investment analysis difficult: fuel costs projection and uncertainty over adequate fuel supplies. First, projecting fuel costs for each energy option over the lifetime of the technology is speculative. With fuel price decontrol and allocation restrictions, what appeared to be a reasonable investment in a conventional technology may cost many times what was projected if conventional fuel costs rise dramatically. In limited circumstances, alternate fuels may show better behaved pricing changes.

Second, there is the possibility that adequate fuel supplies may not be available at all. Natural gas and oil supplies have been a problem. The prudent manager must analyze the cost of a fuel interruption or cut-off to the business, and then consider options that may avoid that cut-off. The key question may become, "What is the probability the business can stay open, and what is the cost of a total fuel interruption?" rather than "What is the rate of return on this oil boiler, assuming oil is available and does not inflate in price?" Adequate planning is inexpensive compared to the cost of an avoidable mistake in a major investment. One prudent precaution might be the installation of multifuel boilers or furnaces in all new projects.

In South Carolina, the prime industrial alternate energy fuels right now are wood, municipal solid waste, and grain (as a feedstock for ethanol plants). In the next few years, peat and direct solar uses may be added to the list. Resource bases generally are smaller than people imagine. Local quantities frequently are not well documented, and delivery systems for fuel use are not in place. At the same time, these resources are virtually unexploited.

WOOD AS AN ENERGY RESOURCE

Of all indigenous alternate resources, wood energy appears to have the greatest near-term potential for the state. Fully two-thirds (12.5 million acres) of South Carolina is classified as commercial forest land. Considerably more wood is grown each year than is cut.

Under emergency conditions, with complete clear cutting and use of all available stems, limbs, branches, and stumps, followed by complete and optimum replanting, wood could provide as much as 200 trillion BTU of energy annually and still meet projected pulpwood, timber, and other forest product industry needs.[2] However, such total harvesting and collecting of all wood residues and maximum productivity replanting are not only extremely uneconomic, but also may be politically and environmentally unacceptable. Although wood is the state's largest indigenous natural resource, far less than 20 percent of its current energy needs can be realistically met from wood energy. Yet, some wood energy applications on a smaller scale are very practical.

Forest products industries have long burned wood wastes to power parts of their operations, and they plan to use more. Some nonforest companies (for example, Guignard Brick and Tee Pac) have switched to wood fuel for many of their operations. A number of brick companies in the Carolinas and Georgia switched to wood in the late 1970's when their natural gas supplies were interrupted. They also discovered that wood was more efficient in a kiln than natural gas or oil.

Other industries, including the fledgling ethanol industry, are also considering wood. Most plan to install multifuel boilers that can burn wood, coal, natural gas, oil, or other fuels. Although considerably more expensive than natural gas boilers, multifuel boilers offer increased security against supply interruptions and enable the manager to switch to the least expensive fuel as prices change.

To avoid the cost of replacing gas-fired equipment, a hospital in Rome, Georgia, installed a wood gasifier developed by the Applied Engineering Company of Orangeburg, South Carolina. The process produces a low-BTU gas suitable for nearby boiler use. The concept offers promise for other potential users since it permits the continued use of existing boilers and eliminates the need for purchasing expensive new ones.

Most nonforest industries now using wood as a fuel get their supplies from dry wood residues generated by lumber or wood products companies. Clemson University surveys estimate that 95 percent of the 4 million tons of such residues produced in state yearly are now being used. Most companies that plan to start using wood as a fuel will have to use green wood available from loggers.

Thus, a new large-scale wood user must procure wood in the same market as, and in competition

[2] T.J. Vigerstad and J.M. Sharp, **Assessment of the Availability of Wood as a Fuel for Industry in South Carolina** (Columbia, S.C.: S.C. Energy Research Institute, 1979).

with, the forest products industry. At current wood prices, the cost for unit heat output is attractive. Green pine chips selling at $20 a ton can be directly fired to produce 7.4 million BTU. At this rate, the cost is $2.70 a million BTU, slightly higher than some current industrial gas contracts, but considerably cheaper than residual oil at $0.80 a gallon (or about $5.50 a million BTU). The homeowner now burning oil at $1.20 a gallon can, with an efficient stove, afford to pay $185 a cord for delivered hardwood and hold fuel costs constant. However, for both industry and the homeowner, new and expensive equipment is required to burn wood efficiently, and considerably more people are needed to handle the wood and ashes. As a fuel, it is much less convenient than oil or gas.

If wood were to become widely used as a fuel, the effect of increased demand on prices is unpredictable. Currently, the price is set by the requirements of the forest products industry. If the fuel demand exceeds the easily available supply, price competition and increases are inevitable.

Can an industry avoid this price competition by purchasing its own land and cutting its own wood? Consider the wood required to fuel a 100,000 pound-an-hour steam boiler in a small textile operation. A total of 33,800 acres of land, costing an estimated $15.3 million, is needed to grow renewably the 100,000 tons of wood required yearly. Even though $1.5 million can be cut from the fuel and operating costs in the first year alone, and even though the savings should increase yearly, the high initial cost for land and for a logging operation will prevent most companies from exercising this option.

In the near term, an industry with older boilers and a demand requiring only a small fraction of the total wood now cut in its area should seriously consider converting to wood. The company should be able to obtain its supply from loggers at less than $3 a million BTU. If wood becomes a large-scale fuel, prices will undoubtedly increase, because the demand for process and space heat in South Carolina is far greater than even an enhanced wood supply can satisfy.

Wood burning is generally considered to be environmentally benign since the resulting pollution is generally less than for coal. However, in crowded cities too many residential wood stoves may lead to air quality and other problems. The Tennessee Valley Authority recently had to cut back on supplying low-cost wood stoves to Memphis neighborhoods because of anticipated air pollution. Also, an increase in home fires from improperly installed and maintained wood burners may lead to mandatory inspection programs to reduce this hazard.

An industry or utility planning to use wood fuel can better control pollution and safety. The volume of wood it requires, though, may raise other questions. Several years ago the Burlington Electric Department (Vermont) won widespread praise for planning a wood-fired 50 megawatt electric plant in a wood-rich area. Now lawsuits are pending against the construction permit. Some groups question the effect of harvesting thousands of acres yearly to fuel the plant. A small neighboring town sought to prevent the 80 large daily truckloads of wood required from coming through the town. Faced with these objections, the utility is switching, at great expense, to railway shipments of wood. It has also hired foresters to certify that all the wood it purchases is harvested in an environmentally acceptable manner. The utility may have to build plastic-lined ash disposal pits because wood ashes may be considered hazardous solid wastes.

Conventional timber harvesting techniques have long been debated, and at times legal controls have been imposed. Some object to clear cutting on aesthetic grounds. Aesthetic harvesting methods, however, both greatly increase costs and limit the harvest. Those objections would probably increase if large-scale wood fuel operations were added to those of the South Carolina forest industry.

Improper decisions on where cutting occurs can result in erosion and water quality problems. Exploitative and poorly planned harvesting will raise the possibility of legal controls of cutting, even on private lands, but appropriate industrial interest in how the wood is procured should prevent severe problems. The expertise for good harvesting and forestry management is available from the South Carolina Forestry Commission, the South Carolina Forestry Association, and the Clemson University Forestry Extension Service.

MUNICIPAL SOLID WASTE AS AN ENERGY RESOURCE

Municipal solid waste (MSW) is an alternate fuel that, unlike many other alternate fuels, can be economically used today without a government subsidy. Rapidly increasing costs for conventional fuels, coupled with skyrocketing landfill costs, make it economically attractive for many industries and municipalities to install incineration systems to burn MSW and recover its energy content. Such systems have been used in Europe for decades and are now beginning to come into widespread use in

the United States. Using MSW solves two problems simultaneously: it provides a needed new source of energy, and it eliminates much of the waste disposal headache. Also, MSW is replenished daily and probably will be produced in increasing quantities in future years.

In South Carolina, municipal solid waste is typically produced at the rate of 3.5 pounds per person per day. Collected, this waste contains about 4,500 BTU per pound. Over the course of a year, the entire population of the state produces about 2 million tons of garbage, containing approximately 18 trillion BTU. Other wastes produced in the industrial sector could supplement this output.

Obviously, this entire resource is not recoverable, but optimistic predictions are that half of it will be used as an energy source within the next decade and will contribute about 10 trillion BTU to the state's energy mix. This amount corresponds to about 1 percent of current annual energy consumption in South Carolina. While the resource is not large compared to total energy consumption, MSW does represent a significant resource that is technically and economically recoverable today. For example, 1 trillion BTU would fuel Westvaco's large Charleston facility for about 3.5 years. Environmentally, energy recovery from MSW can result in relatively benign and manageable effluents.

Even when it is practical, though, MSW use is difficult. Perhaps the greatest difficulty is finding a customer (usually an industry) with a constant, large need for steam. A MSW-to-energy program, then, requires highly complex interaction among municipalities, industry, financial institutions, vendors, and others. This interaction frequently takes place in a delicate, highly political atmosphere. Also, the MSW-to-energy technologies may be fairly well proven, but the risk associated with them is not zero. The resulting risk allocation arguments can greatly impede successful projects. Many other institutional problems, such as financing uncertainties and an inability to gurarantee a constantly available waste stream, can also make agreement on a project difficult. Nonetheless, these barriers are not insurmountable. With a strong commitment from the groups involved, MSW-to-energy projects can work.

ETHANOL AS AN ENERGY RESOURCE

Ethanol produced from grain is another alternate fuel that has recently received much attention in South Carolina as well as throughout the nation. This product, either burned directly or blended with gasoline to produce gasohol, is appealing because it is a substitute for gasoline and can be produced using homegrown, renewable feedstocks. If all South Carolina grain were converted to ethanol, 8.5 trillion BTU of liquid fuel could be generated from state products. Unfortunately, South Carolina is a grain deficit state which already uses substantially more grain than it grows. As a consequence, we cannot expect to produce a major part of our liquid fuel needs from grain unless we either dramatically increase our current output, or import vastly increased quantities of this feedstock.

Studies recently completed by ERI[3] and Clemson University suggest that the state's farming sector, given the proper impetus, could reasonably increase its grain production by about 60 percent over the next five years. Taking all grain grown would then produce 160 million gallons of ethanol, or 14 trillion BTU. This amount could replace 9 percent of the state's current gasoline consumption, or 1.4 percent of the state's current energy usage. Increased grain growth alone could supply 0.5 percent of the state's current usage; it would also provide a tremendous boost to South Carolina farmers.

Increased grain imports from the Midwest do not appear to be a problem. South Carolina could probably meet 10 percent of its liquid fuel needs with ethanol made from grain grown in other states, given the proper economic conditions of significantly higher pump prices or continued substantial government subsidies.

Besides feedstock availability, a number of other questions surround the subject of ethanol production from grains, most of which have been hotly debated in the national press. They include ethical considerations of producing fuel from traditional foodstuffs, questions about the net energy balance of the ethanol production process, concerns over the magnitude of state and federal tax subsidies for ethanol, and questions on the real cost of producing this product. These debates will continue. The fact remains that the nation's, as well as the state's, capacity for producing ethanol is growing rapidly. With current government subsidies this growth will continue for some time, independent of the national debates, and we can expect to see small but rapidly increasing quantities of ethanol produced in South Carolina in the very near future.

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[3] K.R. Madigan, **Fuel Ethanol and South Carolina. A Feasibility Assessment: Executive Summary** (Columbia, S.C.: S.C. Energy Research Institute, 1980).

PEAT AS AN ENERGY RESOURCE

Peat is partially decomposed organic matter that over geologic time may eventually become coal. Peat is used on a large scale as an energy resource for the production of electricity and home heating in Europe and the Soviet Union. While there are peat deposits in South Carolina, peat has never before been considered as an energy resource within this state.

Our current survey work (approximately 30 percent complete) has identified about 74,000 acres of peatland which may contain up to 988 billion pounds of wet peat.[4] Fuel grade peat contains 8,000-10,400 BTU per bone-dry-pound, depending on its ash content. In the bog, peat is about 90 percent water. Most South Carolina deposits visited so far are over 80 acres in size, have a minimum depth of 4 feet, and have an average BTU content per bone-dry-pound of 8,000 BTU. Identified instate peat bogs may hold as much as 800 trillion BTU of potential energy.

Peat may be used dry as a solid fuel or wet (30 percent moisture content) as a feedstock for gasification. Major projects now under development in the United States require peat deposits 5 to 10 times larger than South Carolina's largest deposits. However, in Russia and Europe, deposits equal to, or smaller than, ours are routinely exploited. Peat as an energy resource in South Carolina may require the adaptation of European technology or the development of new technology that can make economic use of intermediate or small size deposits.

We cannot now accurately assess the impact that peat could have as an energy resource in South Carolina. Our peat deposits are small in comparison with those in Alaska, Maine, Minnesota, and North Carolina, each of which may be 10 to 100 times larger. Unlike the other alternative fuels, peat is not a renewable resource. Once used, it is gone for our lifetimes. Many of the bogs are in ecologically sensitive coastal areas. The technology for economical use of peat as a fuel is not yet developed for South Carolina applications, and the potential value this very wet fuel offers to the state's energy mix is a matter for further research.

[4] A.D. Cohen, M. Tisdale, D. Corvinus, M. Holmes, M. Andrejko, and T.J. Vigerstad, **Peat Resources Estimation in South Carolina** (Columbia, S.C.: S.C. Energy Research Institute, 1980).

DIRECT SOLAR USE

To date, ERI has not undertaken detailed work in direct solar heat. Through our study in industrial heat recovery, we have discovered somewhat limited circumstances in which industry can apply existing solar technology. Flat-bed solar collectors now in use can do little to substitute for the energy demands of the industrial and transportation sectors, or for the cooling, lighting, cooking, and motor loads of the residential and commercial sectors. Without concentrating collectors, solar energy supplies heat only up to 200°F; less than 8 percent of industrial processes use heat at this temperature or lower. Waste heat recovery from higher temperature processes now satisfies many of these low temperature needs, and will soon meet other needs as well, at a lower cost than that for active solar systems.

Only for that fraction of energy used for space and household water heating do flat-bed solar systems appear practical now. In this region electric heat pumps offer economically advantageous life-cycle costs in most applications because of lower initial costs and the availability of coal and nuclear fuels for electrical production. They are likely to remain the leading space and, increasingly, the water heating, source, especially when combined with better insulated homes and offices designed to take advantage of winter window heat from the sun. Economically competitive concentrating solar collectors and photovoltaic (light converted to electricity) devices do not yet exist. While these advanced solar technologies may contribute in the future, they are not yet serious choices for most applications.

CONCLUSIONS

Taken together, the three renewable energy resources (wood, municipal solid waste, and ethanol made from grain) under even extreme emergency conditions can supply only a small fraction of South Carolina's current energy consumption: no more than 25 percent. For the near term (and without significant discoveries, for the long term), South Carolina will remain an energy-poor state, importing the major portion of all energy needs from more energy-rich areas. Although the alternate resources can supply only a small fraction of the total energy required, in special cases each may offer significant advantages. All energy users should be aware that some of their energy needs can be met practically by alternate fuels.

The Management Bookshelf

By Dwight Gardner, Business Librarian, M.B.A., M.S.L.S.

The Management Bookshelf is a service to our readers provided by the Elliott White Springs Library of the College of Business Administration of The University of South Carolina.

WHAT EVERY SUPERVISOR SHOULD KNOW
by Lester Bittel
McGraw-Hill Book Co.
1221 Ave. of the Americas
New York, NY 10020
1980, 660 pp., $18.95
This 1980 publication is the latest edition of a management classic designed to instruct the first-line supervisor on the actual techniques needed to get his job done. The author uses real life examples, a question and answer format, and sufficient detail to enable the reader to apply what he has learned.

DIRECT COSTING
by William Arnstein and Frank Gilbert
AMACOM
135 W. 50th St.
New York, NY 10020
1980, 280 pp., $26.50
This book is an introductory guide for the financial manager who needs information on the mechanics of establishing a direct costing system for his own company. The authors give practical advice on the uses of direct costing, and discuss the benefits to be derived from the resulting improved financial data in the planning and control of operations.

SELL YOUR WAY TO SUCCESS
by D.M. Brownstone
John Wiley & Sons, Inc.
605 Third Ave.
New York, NY 10016
1981, 224 pp., $12.95
The purpose of this book is to assist the reader in mastering the skills of successful selling. It covers the entire selling process, from finding prospects to closing the sale. Its practical advice should benefit salesmen at all levels of experience.

WORK REDESIGN
by Richard Hackman and Greg Oldham
Addison-Wesley Pub. Co.
Reading, MA 01867
1980, 330 pp., $6.95 paperback
These authors discuss the theory and methods of both individual and group work design. They contend that the ultimate goal of their approach is to increase worker productivity and job satisfaction simultaneously. They also note the risks inherent in their model of organizational behavior.

MANAGER'S GUIDE TO COPYING AND DUPLICATING
by Richard Hanson
McGraw-Hill Book Co.
1980, 225 pp., $14.95
The author, a consultant for the duplicating industry, shows how to make a firm's copying operations more cost efficient. Helpful appendices contain information on relevant copyright laws, duplicating systems and their hardware, and a technical vocabulary.

GETTING BY ON $100,000 A YEAR, AND OTHER SAD TALES
by Andrew Tobias
Simon & Schuster, Inc.
1230 Ave. of the Americas
New York, NY 10020
1980, 264 pp., $10.95
This volume is a collection of articles originally published in such magazines as **Esquire** and **Money** by the author of **The Only Investment Guide You'll Ever Need.** It is an entertaining, tongue-in-cheek look at the financial tribulations of those in the upper tax brackets.

* * *

Readers are invited to submit titles of books that they wish to call to the attention of others.

STATISTICAL INDICATORS OF SOUTH CAROLINA BUSINESS

ITEMS	November 1980	November 1979	Latest Month Percentage Change from Year Ago
Deposits, Member Banks ($ millions)	NA	$ 2,968	—
Demand	NA	1,564	—
Time	NA	1,404	—
Loans, Member Banks ($ millions)	NA	2,090	—
Savings in Savings and Loan Associations ($ millions)[b]	5,452.0	5,038.7	+ 8.2
Sales and Use Tax Collections ($ thousands)	45,297.9	43,526.1	+ 4.1
Labor Market:			
Civilian Labor Force (thousands)	1,338.7	1,326.5	+ 0.9
Employment	1,246.5	1,262.0	- 1.2
Rate of Unemployment (percentage)[c]	6.9	4.9	+ 40.8
Nonfarm Wage and Salary Employment (in thousands)[c]	1,188.7	1,174.4	+ 1.2
Manufacturing[c]	386.4	393.0	- 1.7
Contract Construction[c]	68.6	64.5	+ 6.4
Transportation and Public Utilities[c]	55.0	52.2	+ 5.4
Wholesale and Retail Trade[c]	230.5	226.4	+ 1.8
Finance, Insurance, and Real Estate[c]	48.9	46.7	+ 4.7
Services, Mining, and Miscellaneous[c]	159.3	158.9	+ 0.3
Government[c]	240.0	232.7	+ 3.1
Average Hourly Earnings, All Manufacturing (in dollars)	$ 5.81	$ 5.29	+ 9.8
Initial Unemployment Claims Filed in South Carolina	14,639	19,921	- 26.5
Placements by South Carolina Employment Offices (nonagricultural)	6,365	5,942	+ 7.1
Indexes of Prices Received by Farmers (1966-68=100)			
All Farm Products	224	207	+ 8.2
All Crops	242	220	+ 10.0
Livestock and Products	221	212	+ 4.2
S.C. Parity Ratio	77	80	- 3.8
New Motor Vehicle Registrations			
Cars	7,318	9,010	- 18.8
Trucks	1,716	2,661	- 35.5

	November 1980	November 1979	First 11 Months 1980	First 11 Months 1979	First 11 Months Percentage Change
Valuation of Building Permits Issued ($ millions)[d]					
Total for all S.C. Counties	$128.2	$119.7	$1,618.7	$1,701.6	- 4.9
Available County Data					
Aiken	1.3	8.3	26.5	60.1	- 55.9
Berkeley	3.0	4.1	56.1	34.5	+ 62.6
Charleston	15.0	8.0	175.5	181.9	- 3.5
Dorchester	4.0	6.1	34.1	48.2	- 29.2
Lexington	4.3	5.7	93.3	78.7	+ 18.6
Richland	10.4	12.7	116.1	127.4	- 8.9
Greenville	19.1	6.8	199.9	187.3	+ 6.7
Pickens	15.9	4.7	59.8	36.9	+ 62.1
Spartanburg	8.4	7.6	83.2	134.9	- 38.3

[a]Less than one-half of 1 percent.

[b]Due to the termination of certain data series by the Federal Reserve Bank of Richmond, this series has been replaced by the Federal Home Loan Bank of Atlanta.

[c]Ibid., the South Carolina Employment Security Commission.

[d]Note: These amounts are now being reported in millions of dollars instead of thousands of dollars.

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DIVISION OF RESEARCH ■ COLLEGE OF BUSINESS ADMINISTRATION ■ THE UNIVERSITY OF SOUTH CAROLINA

Volume XXVIII, Number 1
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Summary of Contents

3 **Participative Management: A Way of Life?** The United States has been losing the productivity race for the past decade to other industrialized nations. One approach to reversing this trend is Participative Management (PM), a philosophy that is taking significant steps toward becoming a way of life in this country. In this article, Robert G. Thompson, Management Analyst, explores the PM concept and analyzes its scope, application, strengths, weaknesses, and future.

9 In **SCMOD,** Dr. Richard W. Ellson, Research Economist and a member of the Economics faculty in USC's College of Business Administration, discusses econometric models in general and South Carolina's model in particular.

16 **The Employer and Employment Laws,** a regular feature by James J. Baldwin, Partner in the law firm of Haynesworth, Baldwin and Miles. In this month's column, **Comparable Worth Theory Survives Round One As Supreme Court Decides Gunther Case Against Employer,** Baldwin recommends that private sector employers observe future Supreme Court cases regarding sex based wage discrimination in the hope that the Court will not expand its current thinking on the theory of comparable worth.

19 **Bottom Lines,** a regular feature by Dr. James B. Edwards, Professor of Accounting and expert consultant to Management. In his initial offering this year, **South Carolina Tax Lines,** Dr. Edwards begins a series of discussions of some of the more significant and/or latest known approved South Carolina tax laws.

21 In **Paying for Prisons,** Dr. John F. Kososki, Director of the South Carolina Department of Corrections' Division of Resource and Information Management, and Mrs. Mee Sim Lee, Supervisor of the Statistics and Analysis Section of SCDC's Division of Resource and Information Management, provide an extensive insight into the economic and policy issues pertaining to corrections in this state. A very thought provoking introduction to the main text is also provided by Corrections Commissioner William D. Leeke.

34 **Tourism Along the Grand Strand.** In this brief article, Dr. Darcy R. Carr, Dean, and James Franklin Eason, Assistant Professor, School of Business, Coastal Carolina College of The University of South Carolina, explain what they believe attracts some tourists to the Grand Strand year after year, and why some other tourists do not return repeatedly.

37 **Do Consumers Think the Quality of Food on the Dinner Table is Better Now Than in 1960?** Here Drs. Arch G. Woodside and Subhash Sharma, members of USC's Marketing faculty, report the results of a survey that indicate the substantial differences between how South Carolinians perceive this state's agricultural industry and how things really are.

43 **The Management Bookshelf,** a regular feature in which Dwight Gardner, USC BA's Business Librarian, reviews books of interest to business practitioners.

44 **Statistical Indicators of South Carolina Business.** A regular feature, listing the latest available data.

business and economic review

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Division of Research
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This month's cover: The nuclear powered, fast-attack submarine USS Ray (SSN-653) underway. (Official Navy Photograph.) See "Participative Management: A Way of Life?" page 3, this issue.

Participative Management: A Way of Life?

By Robert G. Thompson

As Diogenes searched diligently for the elusive honest man, so American government and industry are searching for solutions to the rapidly rising problem of declining productivity. The experts in business, economics, management, and manufacturing have for years been prescribing remedies for this malady, including reinvestment of profits for modernization, better R & D, more efficient methods, tighter inventory control, product to market specialization, and massive employee retraining. In spite of this abundance of sound advice, however, the record remains unchanged, and shows clearly and consistently that the United States has been losing the productivity race for the past decade to other industrialized nations, primarily Japan and West Germany. How to reverse, or at least slow, this trend has become the $64,000 question in the minds of managers and workers alike throughout the country, and unlike the once popular television show, there is no one offstage to prompt a specific answer to the question. Consequently, we are currently experiencing a new wave of techniques, philosophies, and practices, all of which are aimed toward the improved productivity goal. One such philosophy is Participative Management (PM). This particular approach appears to be taking significant steps toward becoming a way of life in this country. The purpose of this article is to explore the PM concept and to analyze its scope, application, strengths, weaknesses, and future.

Robert G. Thompson is a Senior Management Analyst in the Management Engineering Office, staff to the Commander, Charleston Naval Shipyard. In that capacity, he has served in the past as Program Manager for various special projects, the most recent of which is Quality Circles. Under Thompson's direction, the shipyard established a pilot program in July 1980. That effort has proven successful, and Quality Circles are now formally operating throughout the shipyard. He has lectured at various government and private activities in the Southeast about the Charleston Quality Circle experience. Thompson is a 1971 graduate of The University of South Carolina with a B.S. Degree in Business Administration (Marketing). He also earned an M.B.A. Degree from The Citadel in 1976.

PARTICIPATIVE MANAGEMENT DEFINED

Various definitions of PM are espoused by equally competent sources. Scanlan defines PM as

> getting things done through people by creating a situation in which subordinates may develop mental and emotional involvement in a group situation which encourages them to contribute to group goals and share responsibility in them.[1]

Quality Circle members present findings and solutions to Management for final decision.

There is distinct human element in this definition, an element that is often stressed by advocates of PM. Not all share this humanistic view, however. There is the more cynical element in both management and labor that Maier had in mind when he reported that

> to the work force, . . . participation may simply mean escape from deadening monotony and the dehumanized work of an assembly line.[2]

This self-serving interpretation quite naturally led to the knee-jerk management reaction that PM is nothing more than a gimmick, not a sound, basic principle of organization.

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[1]Burt Scanlan, **Management: A Short Course for Managers (New York: John Wiley & Sons, Inc., 1974).**

[2]Norman Maier, **Creative Management** (New York: John Wiley & Sons, Inc., 1962).

Given these diverse viewpoints, a compromise approach becomes necessary, and the KISS (Keep It Short and Simple) technique seems appropriate. The fundamental aspects of PM can be stated as follows: each level of the work force in a business, industry, etc., provides input and feedback to those levels above and below it. Certain subjects may be taboo; for example, short- and long-term goal setting must remain the responsibility of management. How to reach those goals effectively and efficiently, however, is open to the PM process, is decided by consensus, and may involve **all** levels of the organization.

This is a dramatic change in the thought process that for decades ran along the lines of managers in "ivory towers" deciding and workers in the trenches carrying out those decisions with a collective "I knew it wouldn't work that way" constantly echoing throughout the workplace. It seems that finally those echoes have reached the towers, and the message they carry is quite clear: effective PM can occur only when effective communications, instead of echoes, occur.

A final thought concerning the definition of PM: to be effective, PM must consider extremes carefully and strike a moderate, objective posture. PM should balance the scales between pseudo or counterfeit participation on one end, and excessive participation on the other. The former will soon be recognized by workers, and will lead to distrust, while the latter will waste time on everyone's part, and significantly weaken PM goals.

Quality Circle projects cover a wide range of topics, including maximizing returns on scrap metal left over after the productive process is completed.

GENESIS OF PM

The drive and desire of people to participate is not a new concept. Studies conducted in England as well as the United States draw conclusions that participation is a basic human drive instead of a learned method. Davis describes the importance of participation as follows:

> Two hundred years ago, we put this essential element [participation] in our political and social structure. We are just beginning to realize that we ought to put participation in business as well.[3]

Furthermore, numerous experiments conducted by such behavioral scientists as Roethlisberger, Bavelas, Coch, and French confirm without doubt the value of participation.

To this point, the discussion has focused on participation. How can this be broadened and applied to management? McGregor, in his studies, compiled a set of factors governing management generally and specifically, i.e., his theory X. One of his assumptions concerns the responsibility of management to organize the basic elements of production: money, materials, equipment, and people. He also surmised that, under theory X, people management was a process of directing efforts, motivating industry, controlling actions, and modifying behavior to fit the needs of the organization. The observations led to additional beliefs that, in summary, express the theory X opinion that man is lazy, irresponsible, self-centered, gullible, unintelligent, and resistant to change. The obvious question, therefore, becomes how can such a creature be allowed to participate in the delicate and demanding decision making process of management. The answer, of course, is that not all people fall under the aura of theory X. Without going into excessive detail at this point, it should be remembered that McGregor developed his own "equal and opposite reaction" theory Y, and those concepts, along with the positive aspects of Herzberg's job enrichment theory, Drucker's

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[3]Keith Davis, "The Case for Participative Management," **Business Horizons VI** (1963).

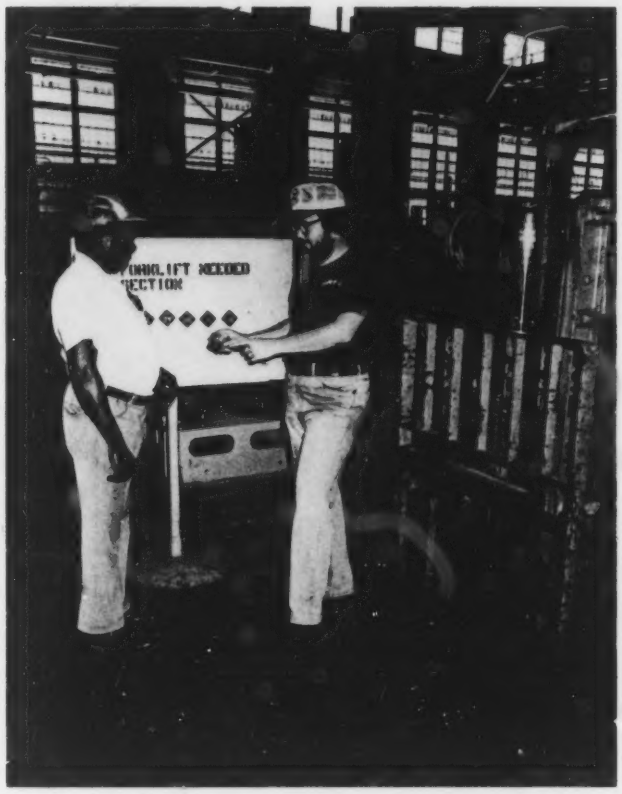
carrot theory, and Maslow's self-esteem theory, combine quite nicely to lay a solid foundation of understanding related to PM. For the most part, people do care about their work lives. The typical worker spends up to one-third of his life and close to one-half of his waking hours on the job. To believe that people can invest that much time in a process simply to put bread on the table is somewhat naive, if not completely ignorant. Man is one of the factors of production, and to view him as simply an extension of a machine is to underestimate greatly his productivity potential. The majority of managers will fine tune a piece of equipment for maximum output, hire financial experts to milk the money market for optimum returns on investment, and order in large quantities to get bulk discounts, but will fall short of tapping the fourth factor — man.

It is not too difficult to understand the reluctance of managers to become people-involved, particularly when the management process itself is on the line. The classical thought process goes something like this: "If I allow my workers to participate in decision making, I am, in effect, giving up at least a portion of my authority. Since the first lesson I learned in business school was that of the authority/responsibility relationship, and since I am responsible, I cannot afford to give up **any** authority." This is an understandable, albeit extreme, thought process and often resides with the manager considering PM for the first time. A thorough examination of the PM process and its parameters, methods, etc. should relieve these fears.

The manager, in virtually all cases, reverses the right to render a final decision. The efforts of participative workers quite naturally will be channeled toward those problems they can relate to and toward whose resolution they can contribute. This is an interesting phenomenom since it has been estimated by some that 80 percent or more of a company's problems are rooted in management, and therefore insolvable by the work force. Whatever the tally book says, the concept remains sound. The key, again, is the effective compromise, and the understanding that participation (1) means mental and emotional involvement as opposed to mere muscular activity, (2) motivates contributions and creative thinking, and (3) encourages people to accept responsibility for an activity. Fulfilling those criteria will go a long way toward fully utilizing the fourth factor of production.

APPLICATIONS OF PM

There is little doubt that a concept or theory without reasonable applicability is of no practical value to industry or management. There is also little doubt that government, industry, and managers have for years been inundated by human relations related concepts and theories, all of which promised success, few of which delivered. There are, however, documented cases of successful PM applications throughout industry and government. The most publicized probably concerns the Non-Linear Systems Plant in Del Mar, California. That company describes its PM process with the terminology "viable management," and operates the system by granting a greater degree of freedom in organizing and establishing work methods. Reported results have been evaluated as impressive, and include a 30 percent increase in productivity, the complete elimination of inspectors, a practically nonexistent reject rate, a 70 percent reduction in customer complaints, and a drop in time of from eight weeks to two weeks to gear up for new models.



Quality Circle solutions often are implemented by members themselves who demonstrate improved methods to the workers concerned.

Whether these results are accepted as concrete proof or dismissed as an insufficient sample is a matter of which viewpoint one wishes to support. What should be done, instead, is to take a macro approach, i.e., to step back from the trees, view the

Submarine Tender USS Frank Cable, AS-40, arriving at Charleston Naval Shipyard.

forest, and attempt to draw some institutional lines relative to PM applicability. The first and most obvious demarcation dissects the public and private sectors.

The Public Sector

Probably the most frequent word association response one might record when saying "government" would be "regulation." From the halls of Congress to the individual activity level, policies and procedures are set forth in overwhelming abundance, so much so as seemingly to leave little for managers (much less workers) to decide. While private industry complains (justifiably so) about government regulations, government regulates itself to a far greater degree.

In addition to the organizational and functional constraints, there is another barrier PM efforts must overcome in the public sector, i.e., the hypothesis that describes the government employee much in the terms of McGregor's theory X. This profile postulates that personal security is the prime motivator, and that the drive for security supplants other drives. If accurate, that mentality would, at a minimum, fail to respond to and, in all probability, would reject PM in almost any form. Such, however, has simply not been the case. PM programs of various types have been established successfully in federal agencies and operations throughout the country. Through various beneficial suggestion vehicles, a worker or group of workers at any level in an organization can suggest changes, innovations, etc. to their managers. In addition, there are successful Quality Circle (QC) programs in operation at federal operations nationwide.

In the QC approach to PM, a group of workers who do the same type of work identify problems related to the execution of their assignments, and devise **solutions** to those problems for their management to accept or reject. Japan has been extremely successful with QC for many years, following the philosophy that workers know the day-to-day problems better than anyone, and, if afforded the opportunity, will strive to solve them.

At the Charleston Naval Shipyard, a successful QC movement is beginning its second year. The participants from top management to circle members are all volunteers, have had various levels of QC training, and recognize the success of the program. The first series of completed projects resulted in more than $70,000 in savings at almost

a 4:1 return on investment. More importantly, however, the experience taught management and workers a very valuable lesson. For managers, the lesson was that the workers did in fact have the ability to conduct professional problem solving projects and to present a complete picture of problems, alternatives, solutions, and costs. For the workers, the lesson was that QC is not just another management program, that the managers involved are sincere, and that the work force can indeed participate in the determination of better methods for increased productivity.

The Private Sector

Private industry, with its profit motive, offers an interesting paradox concerning PM. One side recognizes profit as being the ultimate goal, with methods, people, etc. being tools toward that goal. The logical conclusion, then, is that in order to maximize use of assets in such an environment, PM should flourish. The other side recognizes the autocratic nature of the private industry manager insofar as the authority to make decisions is concerned. The inference is that, at best, an atmosphere of pseudo participation will exist, and such a PM program will not succeed.

Another paradox concerning PM in private industry relates to unions. It would seem that in order to improve leverage, the union position would be in support of PM, and, as a matter of expressed policy, that may be the case. In practice, however, unions generally have limited their involvement to suggestions and advice to management, and typically have avoided accepting any formal responsibility (i.e., PM) for management of an organization. Sturmthal surmises that this is at least partially a result of a lack of worker identification with the organization, as well as a feeling on the part of workers that they lack the ability to make significant contributions.[4] Private industry has, nonetheless, made significant strides toward PM. Employee bonus-incentive programs are flourishing, managers and workers are meeting on the floor and in the office on a regular basis (even to the point of exchanging places for a day), workers are becoming involved in typical management decisions (the salaries of co-workers, for example), and many companies are having production workers elected by their peers to the Board of Directors.

With the rising level of education among the work force, as well as a social shift in their value system, more and more companies in the future will become interested in PM. The key to PM success in private industry lies in the viewpoint managers take. To some, PM will be seen as an opportunity; to others, a threat. The bottom line is to avoid the temptation to portray PM in extreme terminology: i.e., as an answer to all problems or as a dangerous innovation. In the United States, our industrial success for years was at least partially based on solid industrial engineering techniques that maximized machine output and minimized the mentality of the operator. That trend is changing as more and more managers begin to realize that participation helps workers become responsible citizens rather than nonresponsible automators.

A final thought concerning PM is that its success will be directly proportional to the degree to which certain prerequisites are satisfied. Davis offers the following list of prerequisites:

> The first prerequisite is that ample time must be allowed to participate before action is required. Participation may not be appropriate in emergency situations. Second, the financial cost of participation should not exceed the values, economic and otherwise, that it produces. Third, the subject of participation must be relevant to the participant's organization, something in which he is interested, or he will regard it as mere busy work. Fourth, the participant should have the abilities, intelligence, and knowledge to participate effectively.
>
> Fifth, the participants must be able to communicate in order to be able to exchange ideas. Sixth, no one (employee or manager) should feel that his position is threatened by participation. Seventh, participation for deciding a course of action in an organization can take place only within the group's area of job freedom. Some degree of restriction on subunits is necessary in any organization in order to maintain internal stability; subunits cannot make decisions that violate company policy, collective bargaining agreements, or similar restraints.[5]

MEASURING PM SUCCESS

Evaluation of the success of a program quite often becomes a significant stumbling block for managers, and measuring the benefits of PM is no exception. The problem centers around what criteria to use, how to measure them, and how to document results. Cowling poses the following

[4] Ibid.

[5] Ibid.

alternatives as questions to be asked: "Should the effects of changes in the degree of participation at the place of work be measured in terms of productivity, job satisfaction, or labour wastage?"[6] Studies have been conducted by various groups of industrialists and behavioral scientists that conclude that PM methods can result not only in increased productivity, but also in other desirable results. Coch and French conducted a study with the Harwood Manufacturing Corporation in which a control group of workers participated in job design, methods, production rates, and training procedures. That group had a consistently higher rate of production, as well as a lower personnel turnover rate, than did the noncontrolled groups.

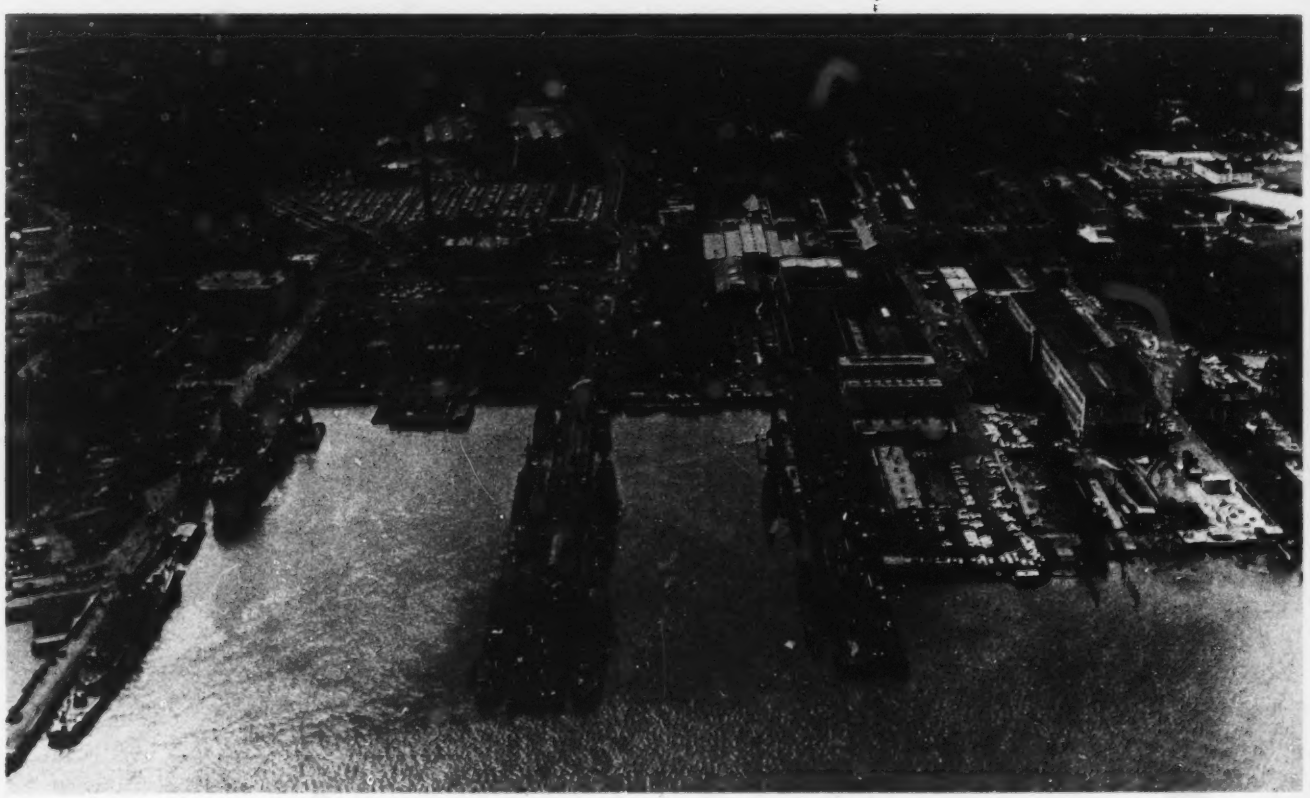
Another study that attempted to measure more subjective returns was conducted by the Institute for Social Research at the University of Michigan. More than 500 employees were divided into 2 major groups. One group was trained in PM techniques and allowed to work in a participative climate of leadership. The second group was operated under tight, autocratic management control, including methods studies to establish production rates. As Cowling reports, the results of that study were quite interesting.

> At the end of one year, productivity had increased by 20 percent in the participative division, and by 25 percent in the hierarchically controlled division. But in the hierarchically controlled division, labor wastage had increased sharply, loyalty had declined, and work ceased when supervisors were absent from the department. In the participatively led division, labor wastage was lower, workers continued to work in the absence of their supervisors, and there was a far more favorable attitude toward management.[7]

The experiences of the Non-Linear Systems Plant discussed earlier in this article, coupled with the above, seem to indicate that improvements and results from PM (both concrete and subjective) can be measured. The key to successful evaluation is for managers and workers to participate in the establishment of measurement criteria. An MBO approach to "where are we going and how will we know when we get there" could be easily adapted to accomplish this goal.

[6]A. G. Cowling, **Behavioral Sciences for Managers** (London: Edward Arnold, Ltd., 1977).

[7]Ibid.



Waterfront, dry docks, and industrial area, Charleston Naval Shipyard.

THE FUTURE

PM is not a panacea, but instead, like legitimate medicines, can be extremely effective if administered in proper doses for appropriate illnesses. As Albrook reports, studies at Harvard, MIT, the University of Michigan, U.C.L.A., Stanford, and elsewhere conclude that

> . . . the "participative" or "group" approach doesn't seem to work with all people and all situations. Research has shown that satisfied, happy workers are sometimes more productive — and sometimes merely happy. Some managers and workers are able to take only limited responsibility, however much the company tries to give them. Some people will recognize the need to delegate but "can't let go." In a profit squeeze, the only way to get costs under control fast enough often seems to be with centralized "get tough" management.[8]

[8]Robert Albrock, "Participative Management: Time for a Second Look," **Fortune Magazine LXXV** (1967).

PM goals are admirable because they focus on human needs often neglected in the management process. To assume, however, that PM is applicable carte blanche is as erroneous as making a blanket application of rigid authoritarian measures. Participation is a deep-seated need that should be satisfied in man. PM is a tool that can be used by managers to provide that satisfaction, but it will be successful only if managers and workers understand what they are doing, develop some social science skill, meet certain prerequisites, respect each other's positions, and begin in a controlled fashion rather than with a full speed ahead approach. They must set a PM framework, keep PM communications open, recognize mutual benefits, publicize positive results, begin on a voluntary basis, and constantly monitor and adapt to changing conditions. Basically, PM revolves around treating people as mature adults rather than as children.

SCMOD*

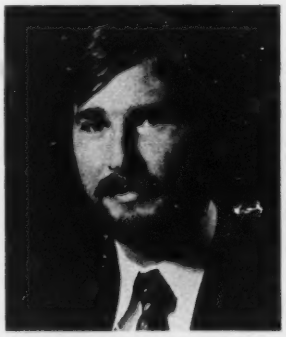
AN OVERVIEW OF ECONOMETRIC MODELS

By Richard W. Ellson

In the past year, the Division of Research of the College of Business Administration at The University of South Carolina has been actively engaged in the development of an econometric model for the South Carolina economy. An econometric model can be most simply defined as a series of mathematical equations based on historical data that attempt to depict or "explain" the interrelationships of an economy. Such a framework has two primary uses. It allows one, first, to forecast future changes in economic activity, and second, to perform various types of policy simulations.

The forecasting is closely related to the planning process in both the private and public sectors. For example, retailers, wholesalers, and producers must be concerned continually with maintaining a proper level of inventories. With respect to consumer goods, there are a number of factors that must be considered, not for the present, but for the future. Obviously, consumer expenditures are in part determined by consumers' income. Therefore, a forecast of personal income is an important aspect of planning in this sector. Those firms that are oriented to household appliances would forecast new housing starts. Automobile dealers may require a forecast on interest rates on

*The South Carolina Econometric Forecasting Model.



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consumer loans, and home builders would be interested in future population growth and mortgage rates. The list is endless.

In the public sector, forecasting is an integral part of the budgetry process. It is imperative to have an estimate of future revenues in order to set expenditure levels. Further, demands for public services can also be forecast in some cases.

Econometric modeling is certainly not the only way to generate forecasts; surveys, other statistical methods, and "off the cuff" estimates are all used in various circumstances. However, econometric modeling has a clear advantage in simulating the effects of alternative events, the "what if" type of simulation. For example, we want to know how the tourism industry in South Carolina will be affected by lower gasoline prices this year, but what will happen if prices rise again next year? An econometric model allows us to compare the effects of expected events relative to those that are not anticipated, at least at this time. This capability is one of the strengths of the econometric model approach.

Clearly, econometric models of the national economy and regions such as states are not unique. Numerous formulations of the former exist, and national econometric forecasting has become quite a growth industry in recent years. Most are familiar with such firms as Chase Econometrics and the Data Resources Institute. Moreover, various universities, banks, and governmental agencies such as the Congressional Budget Office also have developed national econometric models.

This growth can be primarily attributed to the volatility and structural shifts of the national economy during the 1970's, which has engendered an increasing emphasis on business and governmental planning processes. However, one need only be loosely familiar with business periodicals to know that national econometric models may produce contradictory and incorrect results. In recent years, for example, national forecasters have tended to underestimate both inflation and real economic growth. Thus, one must always keep in mind that econometric models, though statistically validated, often are based on competing economic theories and may incorporate historical data that are no longer relevant to current conditions. As one forecaster put it, "Give them a number and a date, but never together."

With the proliferation and improved accuracy of regional economic data, state and substate econometric models have also become widespread. Typically, these models are "Keynesian" in structure, which implies that external demands (i.e., the United States economy) are the most important determinants of real economic activity in a region.

This simply means that most textile products in South Carolina are eventually consumed nationally. Therefore, the national demand for textile products determines textile output, and, ultimately, employment and income in the textile sector, which in turn affects many other industries in the state.

Factors such as prices and interest rates are external to the model, and supply-side constraints usually are ignored. For example, investment capital is assumed to be sufficiently mobile to respond to economic incentives/disincentives. There are two reasons why supply characteristics are ignored: (1) data on investment usually are poor at the regional level and (2) regional forecasts usually are short term (two years or less) so that these constraints are not important. Accordingly, in order to generate a state forecast, one must also forecast those national variables that most affect the state economy. In other words, the national forecast "drives" the state model. Therefore, if the national forecast is grossly inaccurate, the state forecast will be incorrect as well. The phrase, "garbage in, garbage out" is appropriate in these cases.

Some may regard the preceding discussion as rather harsh, but this was not my intention. After all, I am responsible for the South Carolina Econometric Model developed here at USC, and I do produce semiannual forecasts of the state's economy. Rather, my purpose was to dispel the notion that econometric models are "black boxes" without error, and that economists are somehow clairvoyant. Our goal is to reduce uncertainty in the planning process, but unfortunately, uncertainty cannot be eliminated.

Forecasting is both art and science, and the use of econometric models represents a significant advance. The information generated by a model is valuable to many groups such as business leaders, government officials, and ordinary citizens. In such uncertain economic times as the present, the planning process by any group is more important than ever. Forecasts from econometric models represent our best expectation of future conditions. Therefore, I will next discuss the characteristics of our South Carolina Econometric Model, its use, and its misuse.

THE SOUTH CAROLINA ECONOMETRIC MODEL

In technical terms our econometric model can be defined as a simultaneous system of 85 equations.

Translated, this means that we try to analyze approximately 85 characteristics of the state's economy. This number has no special significance — it merely represents the current stage of model development, and it will likely increase in the future.

The basic structure of the model is depicted in Figure 1, and several aspects of this schematic are important. First, note that the model is divided into five blocks: the economic block (employment, income, and investment), the government block (state revenues), the demographic block (population and labor force characteristics), the finance-construction block (savings and lending and construction activities), and the energy block (consumption of electricity only, at this point). The economic block is by far the largest as it includes employment, income, and investment at the 2-digit S.I.C. level of aggregation for manufacturing. For example, a 1-digit category would be total manufacturing; but at the 2-digit level, manufacturing is broken-down by type (e.g., textiles, chemicals, etc.). Therefore, more information is provided at the 2-digit level. The four other blocks are basically defined in the schematic.

In addition to the block organization of the model, it is extremely important to recognize that each of the blocks is linked with the others, either directly or indirectly. This essentially explains why the model is a simultaneous system, for, if one of the blocks is changed, then all of the blocks will be affected to some degree. The following example will delineate this process.

Assume a major industrial firm decides to build a new plant in South Carolina. Initially, the sectors most affected will be construction employment and building materials suppliers. When operations start up, plant workers will be hired. The new plant may also attract new suppliers to the state. Accordingly, employment and income will be generated, but the process will not stop here. Increased job opportunities may attract out of state workers to South Carolina, and new housing will be constructed. Part of the newly generated income will go to taxes, a second part to consumption, and some will be saved and lent by financial institutions. This will further increase the level of economic activity as perhaps more stores and service-related firms are required. Additional demands also will be placed on the suppliers of energy.

This somewhat simplistic example illustrates an important benefit of econometric models. Not only do we get an estimate of the direct effect of the firm's investment decision and the number of jobs and amount of income generated by the plant, but we also know how the rest of the economy will be affected, i.e., the indirect or multiplier effects. The traditional analogy is that of throwing a rock into a pond. The initial splash is the direct effect of a change in an economic activity (the new plant); the ripples that emanate are the indirect effects. Since we are obviously concerned with the total effect upon the South Carolina economy, an econometric model allows us to estimate this.

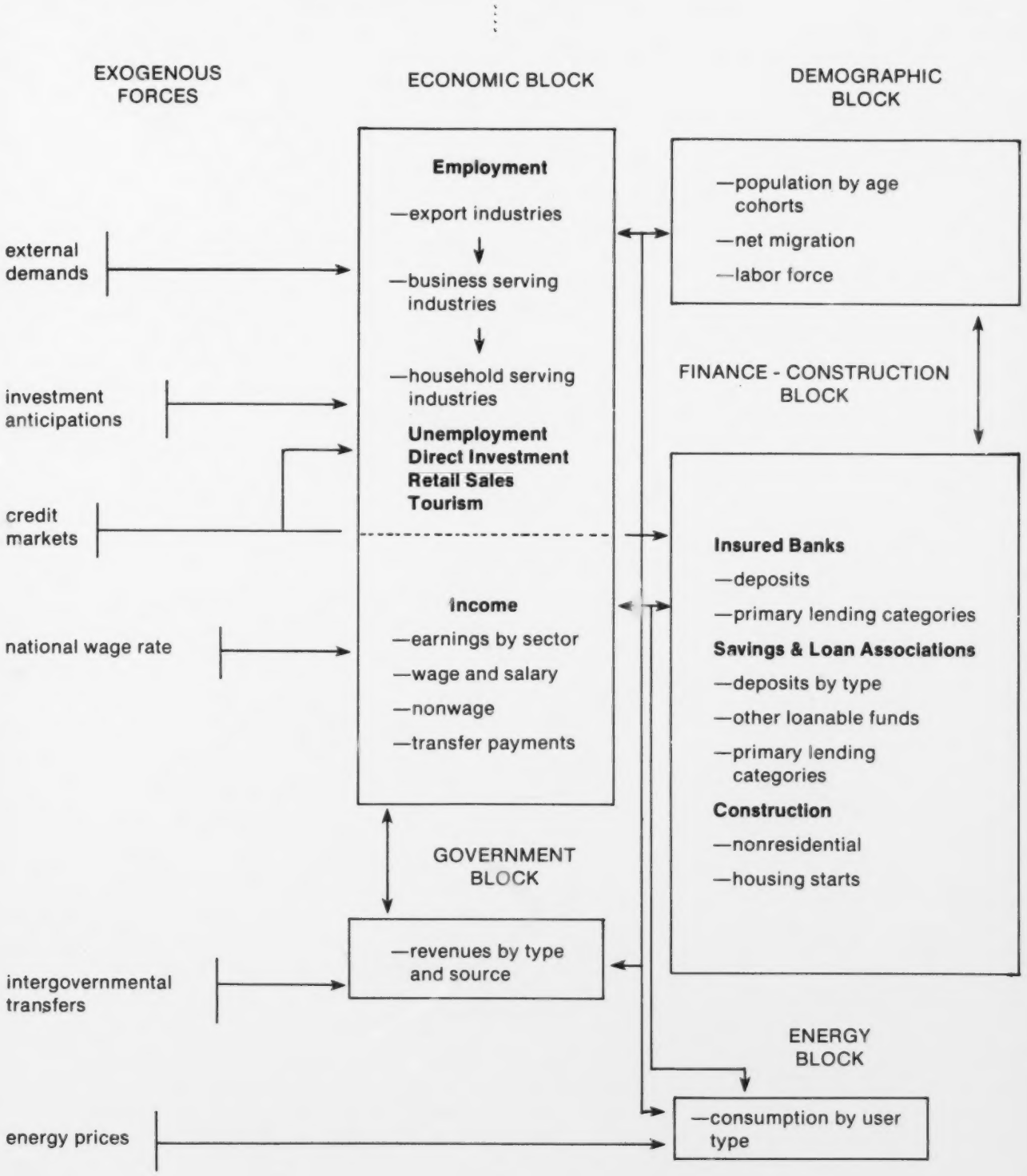
The third major characteristic of our model is that it does incorporate some supply-side factors. Refer to the column headed "Exogenous Forces" on the left-hand side of Figure 1. These are the variables that must be forecast in order to generate an economic forecast for South Carolina. Typical exogenous forces in most models include GNP, inflation, interest rates, and similar factors. However, since investment is a critical component of growth in South Carolina, we utilize investment announcements data to drive actual investment. Although this is often done in national models, it is rarely used at the state level, for two reasons. First, there is a lag between announcements and actual investment, and this must be specified in the model. Second, some announcements never result in any investment (as plans are changed). Despite these drawbacks, however, this approach has been extremely useful in the direct investment equations, which, in turn, are explanatory variables for manufacturing employment at the 2-digit level. This particular characteristic places an important supply-side constraint on the model and differs from the usual Keynesian approach.

FORECASTING AND POLICY SIMULATIONS

For our purposes, those exogenous variables that drive the state model, for the most part, represent national economic factors that influence the state's economy. The primary exogenous variables are Gross National Product, the rate of inflation, three interest rate series, a wage index, unemployment, and an industrial production index. In total, about 10 national variables must be forecast in order to produce a forecast of 85 economic factors in South Carolina.

A related problem is to determine the length of the forecast. Since our model is based on quarterly data, it is used most appropriately for relatively short-term forecasting, i.e., three years or less. The reason for this is that errors will accumulate in the model over time. Thus, the further ahead you forecast, the greater the error. If a quarterly model is well specified and tested for stability, errors and

FIGURE 1. Basic Linkages of the South Carolina Econometric Model



biases inherent in the model itself will not be severe in the short run.

In addition, the length of the forecast period also affects the accuracy of the forecast exogenous variables. As late as two years ago, no one would have predicted a prime interest rate of 20 percent. Therefore, forecasts for 1981 done in that period look foolish today.

It is quite logical, therefore, to make alternative forecasts. To illustrate this process if one took a survey of national economic forecasters, their average forecast of growth in real GNP would be approximately 1.5 percent in 1981 and 3.6 percent in 1982. Inflation, measured by the GNP deflator, would be 9 percent and 8 percent. Alternatively, an optimist might argue that real GNP will grow by 2.7 and 4.9 percent in 1981 and 1982, respectively, with inflation at 8.5 and 7 percent. Finally, a pessimistic projection would be an increase in GNP of .5 and 2.1 percent, coupled with an inflation rate of 10 and 9 percent. From these forecasts, we are able to make three sets of projections for the South Carolina economy based on consensus, optimistic, and pessimistic national conditions. Obviously, any combination of national conditions can be used to make a forecast. What we try to achieve are sets of conditions well within the realm of probability, particularly for use by planners and decision makers.

Needless to say, the three sets of national forecasts will have significantly different effects on the South Carolina economy. Perhaps the best measure of the status of the economy is Real Personal Income (Figure 2). Under optimistic conditions, growth in the South Carolina economy would be quite rapid. This suggests that if President Reagan's proposed economic policies are successful, the benefit to the South Carolina economy will be greater than the average for the United States. Intuitively, this makes sense because much of the growth in our economy is attributable to new investment and exports of goods to the rest of the country. Proposed administration policies would be particularly important in stimulating new investment, and cuts in marginal tax rates would benefit consumers. Using the consensus forecast, the South Carolina economy would essentially maintain the trend that prevailed in the two years prior to 1980. The pessimistic forecast would produce almost a no-growth situation in 1982. These different rates of economic growth would translate into large differences in the unemployment rate (Figure 3). Particularly discomforting is the fact that the unemployment rate would remain well above 7 percent through 1982 under pessimistic conditions.

GOALS AND OBJECTIVES

At this stage our model contains most of the economic sectors important in this state's economy. However, an econometric model is never "finished." As new data become available, they will be incorporated into the model. Furthermore, structural shifts that are constantly occurring will require modifications in the future. The financial sector is an obvious example, with rules and regulations in a nearly continual state of flux.

Currently, the Division of Research, in conjunction with the Charles E. Daniel Center for Management Education, sponsors a semiannual Economic Outlook Conference. The purpose of these meetings is to provide outlooks for key economic sectors in South Carolina, a national overview, and a South Carolina forecast. Leading businessmen from such areas as textiles, finance, construction, and retail trade are speakers at the conferences, and the exchange of ideas between practitioners and academicians has been beneficial to both groups. Our econometric model is used to provide the South Carolina forecast at the conference, and the conference also is an opportunity to familiarize business and government leaders with its capabilities and data inputs. Moreover, those attending provide valuable suggestions on improving and expanding the model.

In the future we hope to extend the usage of the model. For an industry, firm, or interest group that has a need for forecasts or policy simulations of economic aggregates in the state, the econometric model could provide the necessary analytical framework. The model can also be expanded to meet specific needs.

On a final note, I would be happy to receive any comments and suggestions that you may have on the econometric model and its uses. We regard this project as a service to South Carolina, and we want to improve upon it. The model is not an end in itself, but a tool to provide information in these times of economic volatility and uncertainty.

FIGURE 2. Real Personal Income by Place of Residence

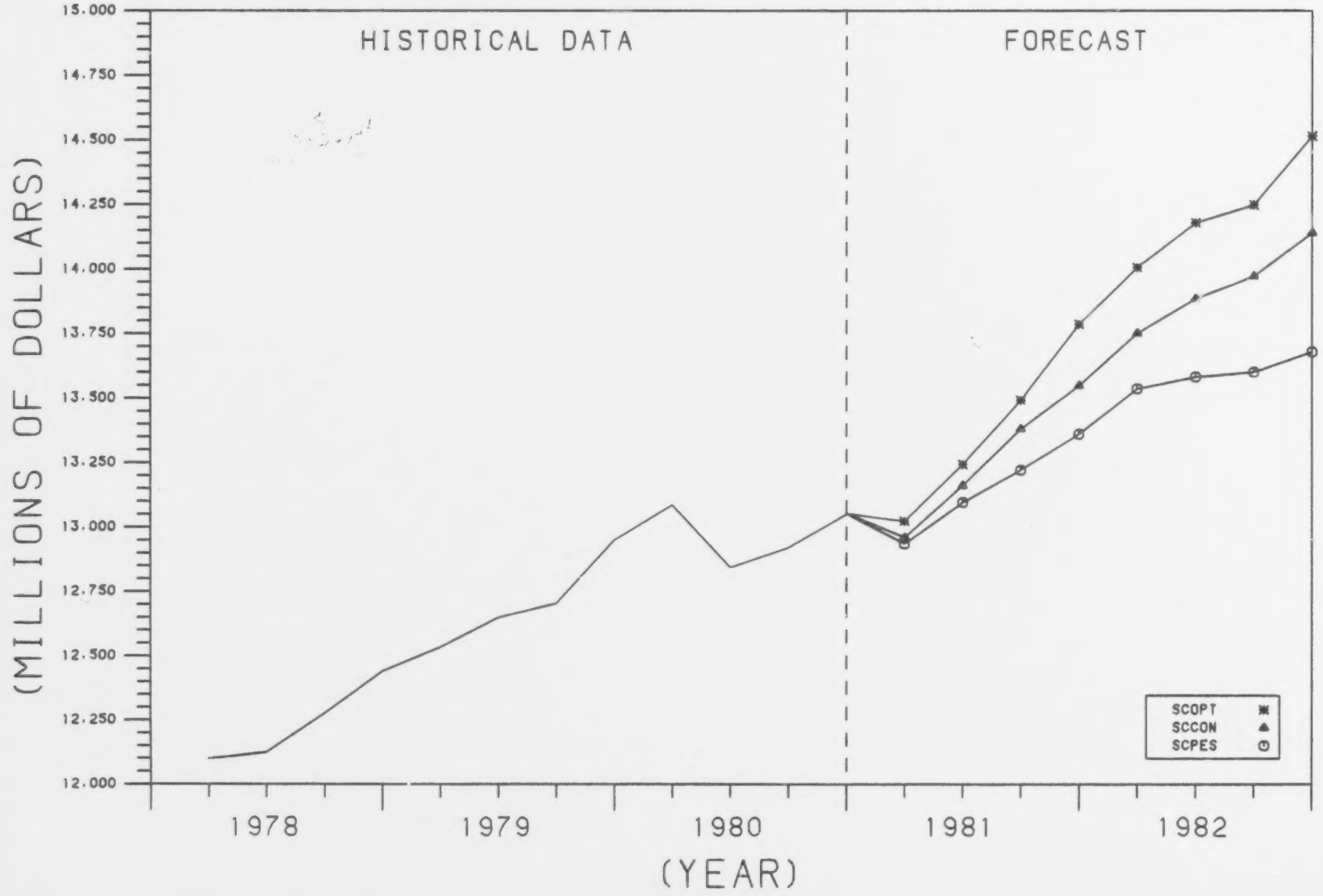
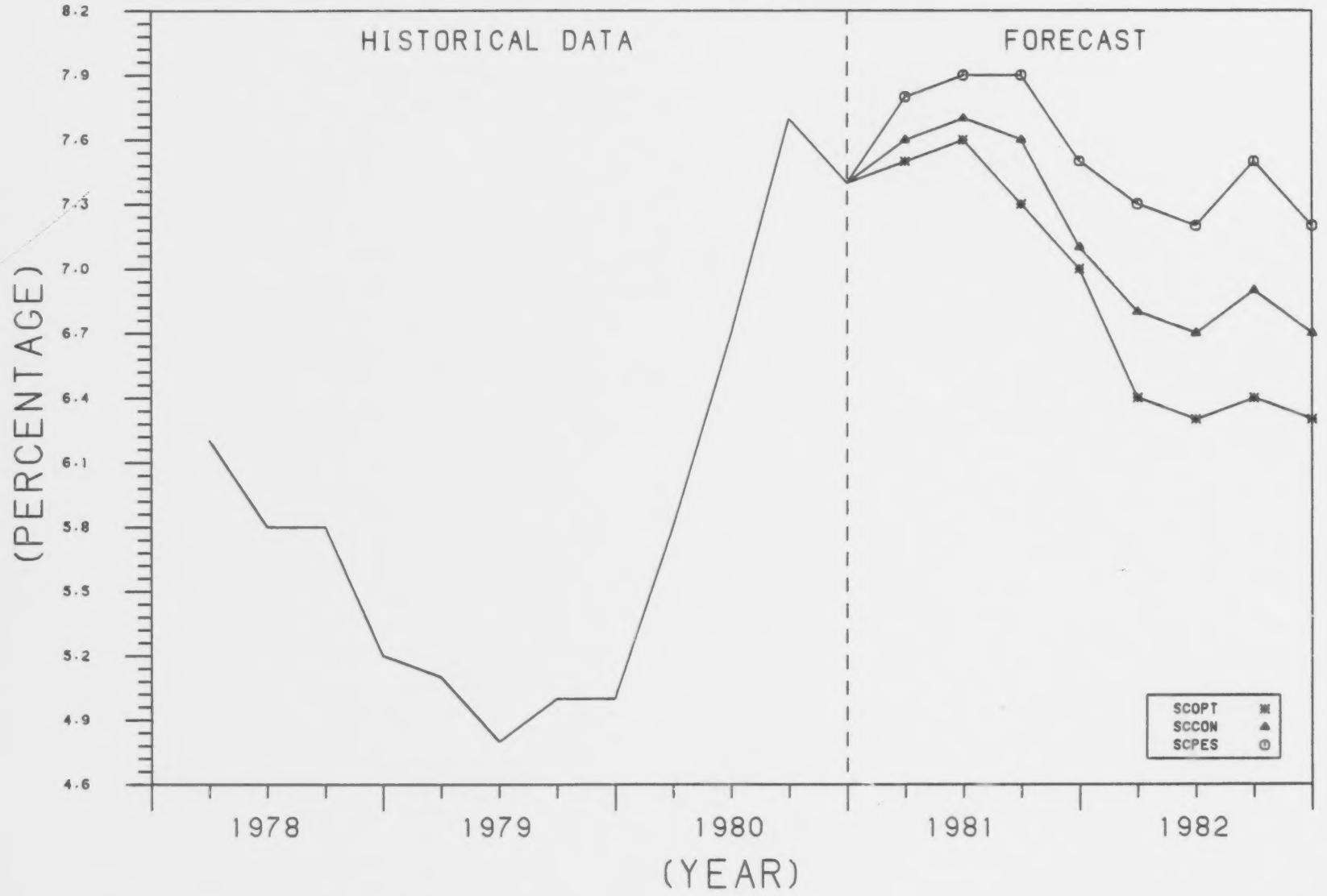


FIGURE 3. Rate of Unemployment



The Employer and Employment Laws

By James J. Baldwin, LL.D.

The Employer and Employment Laws is a regular feature. Suggestions and inquiries by readers are invited.

COMPARABLE WORTH THEORY SURVIVES ROUND ONE AS SUPREME COURT DECIDES GUNTHER CASE AGAINST EMPLOYER

For the past year the theory of "comparable worth" has been one of the most hotly debated areas in the field of employment discrimination law. Eleanor Holmes Norton, former Chairperson of the EEOC, has referred to comparable worth as "the issue of the '80's for women."[1] This notion of "equal pay for comparable work" assumes that whole classes of jobs, such as those in the clerical area, are traditionally undervalued because they are held mostly by women, and that the payment of lower wages to such females amounts to sex discrimination in violation of Title VII of the 1964 Civil Rights Act.

Under the comparable worth theory, an employer would be required to pay women in traditionally female job categories the same wages as paid to male employees in other job categories that are considered to be of "equal value" to the employer, regardless of the fact that the jobs being compared are not equal or substantially equal. If the United States Supreme Court embraces this theory of comparable worth, it would be much easier for an employer's female employees to sue for back wages alleging that they were paid less than males due to illegal sex discrimination under Title VII.

[1]See BNA Daily Labor Report No. 211, p. A-2 (October 30, 1979).

James J. Baldwin is a partner in the law firm of Haynsworth, Baldwin and Miles which specializes in labor relations law. Baldwin is an authority on such matters as union-management relations, problems occurring under the Occupational Safety and Health Act, the Fair Labor Standards Act, and legal questions arising under the various civil rights laws and regulations. In the field of labor law and civil rights law and regulations, he has won an eminent reputation.

A female employee who claims she is being discriminated against, by comparing her wages to that of a male, can presently sue under either of two federal laws: (1) the Equal Pay Act of 1963,[2] or (2) Title VII of the 1964 Civil Rights Act.[3] The Equal Pay Act is a narrowly worded federal law designed to guarantee females equal pay for equal work as performed by males. There are four "exceptions" contained in the Equal Pay Act which can justify a pay differential between males and females performing equal work, i.e., where the pay differential is based on (1) a seniority system, (2) a merit system, (3) a system that measures earnings by quantity or quality of production, or (4) any factor other than sex (such as a bona fide training program). Title VII of the 1964 Civil Rights Act, in much more general terms than in the Equal Pay Act, prohibits discrimination ". . . against any individual with respect to his **compensation,** terms, conditions or privileges of employment, because of such individual's . . . sex. . . ."[4]

If a female employee's suit for a sexually discriminatory wage differential is brought under the Equal Pay Act, it is clear that she must prove that her job was substantially equal to that of a more highly paid male employee, i.e., that she was denied equal pay **for equal work.** Many employers have successfully defended equal pay suits by showing that the female's job in question was not substantially equal to that of a more highly paid male. The fact that this equal work standard has limited the plaintiffs' ability to recover in such cases provided the impetus for the theory of comparable worth. The idea is for the plaintiff to bring her sex discrimination suit for disparate wages under Title VII, not under the Equal Pay Act, arguably making it unnecessary for the plaintiff to prove that the jobs in question were substantially equal, i.e., the plaintiff would merely

[2]See U.S.C. §206(d).

[3]42 U.S.C. §2000e et seq.

[4]42 U.S.C. §2000e-2(a) (emphasis added).

have to demonstrate that her job, compared to that of a more highly paid male, was of comparable worth to the employer. The major problem for the proponents of this new comparable worth theory has been the so-called Bennett Amendment to Title VII which reads:

> It shall not be an unlawful employment practice under . . . [Title VII] for any employer to differentiate upon the basis of sex in determining the amount of wages or compensation paid or to be paid to employees of such employer if such differentation is authorized by the provisions of . . . [the Equal Pay Act].[5]

Congress added the Bennett Amendment to Title VII when it became evident that sex based wage discrimination suits could be brought under either the Equal Pay Act or Title VII, which could lead to potential conflicts in interpretation. The Bennett Amendment appears to state that, regardless of whether such a suit is brought under the Equal Pay Act or under Title VII, the same standards will apply, i.e., equal work would have to be proved and the employer could use any of the four "exceptions" as a valid defense. Such an interpretation of the Bennett Amendment by the United States Supreme Court would have precluded use of the theory of comparable worth in sex based wage discrimination suits under the wording of existing federal law. On June 8, 1981, the Supreme Court, however, decided a case in which the Court interpreted the Bennett Amendment the other way. In the case of **County of Washington, Oregon v. Gunther,**[6] the Supreme Court held that the Bennett Amendment does **not** mean that the equal work standard in the Equal Pay Act must also be met by plaintiffs bringing sex based wage discrimination suits under Title VII.

In the **Gunther** case several female guards in the female section of the county jail alleged that they were the victims of sex discrimination. They claimed that the county had conducted a survey of outside markets and the worth of the jobs, and that the survey showed that the female guards should be paid 95 percent as much as the male guards since the jobs were not exactly equal. The plaintiffs also claimed that the county intentionally elected to pay them at approximately 70 percent of the male guards' rate and that this was intentional sex discrimination under Title VII in the setting of their compensation. The county, as the employer of the female guards, argued to the Court that the Bennett Amendment precluded such a suit unless the plaintiffs could prove that their work was substantially equal to that of the male guards. By a slim five-to-four majority, however, the Court refused to accept the county's argument. The Court found that the legislative history of the Equal Pay Act and the Bennett Amendment showed that Congress never intended to incorporate the equal work standard in sex based wage discrimination suits brought under Title VII. The Court interpreted the Bennett Amendment as incorporating only the four "exceptions" in the Equal Pay Act into Title VII, and not the standard of equal work. The Court reasoned that if sex based wage discrimination suits were limited to cases in which the male and female jobs being compared were equal, a female employee who was discriminatorily underpaid could obtain no relief unless her employer also happened to employ a male in a substantially equal job, at a higher rate of pay. Thus, the Court concluded that the county's female guards must be allowed to bring suit under Title VII (but not under Equal Pay Act) for sex based discrimination in wages **without having to prove that their jobs were equal** to that of the higher paid male guards.

The Court's liberal interpretation of the Bennett Amendment in the **Gunther** case was critical to the proponents of the theory of comparable worth. The Court, however, took great pains to avoid embracing the theory of comparable worth by stating:

> We emphasize at the outset the narrowness of the question before us in this case. **Respondent's claim is not based on the controversial concept of "comparable worth,"** under which plaintiffs might claim increased compensation on the basis of a comparison of the intrinsic worth or difficulty of their job with that of other jobs in the same organization or community.[7]

Justice Rehnquist, in a spirited dissent from the majority opinion, emphasized the narrowness of the Court's decision by stating:

> The opinion does not endorse the so-called "comparable worth" theory: though the Court does not indicate how a plaintiff might establish a prima facie case under Title VII, the Court does suggest that allegations of unequal pay for unequal, but comparable, work will not state a claim on which relief may be granted.
>
> * * * * *

[5] 42 U.S.C. §2000e-2(h).

[6] . . . U.S. . . ., 25 FEP Cases 1521 (June 8, 1981).

[7] . . . U.S. at . . ., 25 FEP Cases at 1522-23 (emphasis added).

> Given that implied repeals of legislation are disfavored . . . we should not be surprised that the Court disassociates itself from the entire notion of "comparable worth."
>
> * * * * *
>
> The decision today does not approve a cause of action based on a **comparison** of the wage rates of dissimilar jobs.[8]

Thus, it may be possible that the Supreme Court will restrict the **Gunther** rationale to the unique facts of that case. In **Gunther** the employer was alleged to have set the wage rates of its female guards intentionally at about 70 percent of the rates of the male guards because of the sex of the female guards, i.e., the plaintiffs sought to show by direct evidence that their employer intentionally depressed their wages because they were women. Such a factual setting will, however, be extremely rare in the business world. In the vast bulk of cases, where the wage rates of females are less than those of males for so-called comparable jobs, this will be due to historical market forces — not an employer's intentional sexual discrimination in setting the females' wage rates at too low a level because of their sex.

While the **Gunther** case gave the Supreme Court the opportunity to sound the death knell for comparable worth as a legal theory under Title VII, the Court elected not to go that far. Unfortunately, this leaves the proponents of comparable worth the ability to fight on another day.

If the theory of comparable worth is allowed by the courts to expand to its logical extreme, as Justice Rehnquist stated in his dissent in the **Gunther** case, this ". . . would ignore economic realities and would result in major restructuring of the American economy."[9] For example, what if all of an employer's office clerical employees are female and are paid at $4.00 per hour, but all of the employer's maintenance employees are male and are paid at $8.00 per hour. The employer must pay the higher rate to attract and hire skilled maintenance employees because there is a shortage of them in the market. The EEOC might claim that its "job evaluation" shows that the clerical and maintenance jobs in question are of comparable value to the employer, and that there has been a violation of Title VII. The EEOC would then demand, as a remedy, that the clerical employees be raised to $8.00 per hour, i.e., equal pay for comparable work. The practical question is whether federal courts and federal agencies should be placed in the position of evaluating the worth of jobs and setting wage scales. In his dissent in the **Gunther** case, Justice Rehnquist also recognized a need to ". . . avoid the burdens associated with governmental intervention into wage structures."[10]

Now that the Supreme Court has decided the **Gunther** Case, private sector employers should observe future Supreme Court cases regarding sex based wage discrimination in the hope that the Court will not expand its Gunther decision to embrace the theory of comparable worth. For the reasons so well stated by Justice Rehnquist in his dissent in **Gunther**, the decision of whether the theory of comparable worth should be adopted as a basis for recovery of back wages under Title VII should be left by the courts for Congress to decide. Without a federal law specifically authorizing such a comparable worth basis for recovery, which does not now exist, the courts should not permit such comparable worth suits to be maintained against employers.

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[8] . . . U.S. at . . . , 25 FEP Cases at 1537-38. (Justice Rehnquist, dissenting.) (Emphasis in original and citations omitted.)

[9] *Id.*, 25 FEP Cases at 1531.

[10] *Id.*, 25 FEP Cases at 1537.

Coming This Year . . .

Our 1981-'82 publishing schedule for the **Business and Economic Review** includes plans for three special numbers — on real estate, on productivity, and on state finances. Other issues will feature articles on a variety of subjects including computerized literature searching, United States competitiveness in the marketplace, right to work laws, unions and productivity, commuter airline service in South Carolina, the single greatest source of consumer complaints in the Palmetto State, and much, much more!

Bottom Lines

By James B. Edwards, Ph.D., C.P.A., C.M.A., C.I.A., C.D.P.

Bottom Lines is a regular feature that brings attention to practical business taxes and accounting. Suggestions and inquiries by readers are invited.

SOUTH CAROLINA TAX LINES

Beginning with this **Bottom Lines** column, some of the more significant and/or latest known approved South Carolina tax laws will be reported. This first issue deals with contributions, capital assets, estimated tax payments, conservation incentive, property taxes, and admissions taxes.

LINE ONE

(Reference: H2348 Income; Act 45, 3-26-'81; Effective 1-1-'81.) This provision allows contributions to the State Nongame Wildlife and Natural Areas Program with the tax return. The contribution does not alter tax liability; it is made by reducing a refund or adding the contribution amount to the tax payment. **Observation:** This is not a charge affecting one's state income taxes. It merely provides the opportunity to contribute to the State Nongame Wildlife and Natural Areas Program by including the contribution amount as an addition to one's state income tax liability. The cash pay out result is the same as if the taxpayer remitted the contribution via a separate payment. **Example:** The taxpayer owes $742.50 in South Carolina income taxes and wishes to contribute $10.00 to the State Nongame Wildlife and Natural Areas Program. He can add the $10.00, making a total payment of $752.50 instead of remitting the $10.00 contribution completely separate from taxes.

LINE TWO

(Reference: S163 Income; Act 121, 6-21-81; Effective for tax years beginning after 12-31-80.) This provision specifically excludes from the definition of "capital assets" evergreens over 6 years old when cut and sold for ornamental purposes. **Observation:** This is a "loop hole" closer.

LINE THREE

(Reference: H2509 Income; Act 144, 6-4-'81; Effective 6-4-'81.) This provision specifies that the estimated tax shown due on a South Carolina estimated tax declaration is payable on the declaration's filing, or in four equal installments. For a corporation, the declaration must be filed by the 15th day of the 3rd month after the start of the taxable year. Amended declarations may be filed on the 15th day of the 6th, 9th, and 13th months. If an amended declaration is filed, the balance of the tax is due in installments proportionately adjusted. If the tax is paid in four equal installments, the first installment is due at the time the declaration is filed, the second on the 15th day of the 6th month after the start of the taxable year, the third on the 15th day of the 9th month after the start of the taxable year, and the fourth on the 15th day of the 13th month after the start of the taxable year. Interest is not charged on installment payments. **Example:** A corporation with a fiscal year ending

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on March 31 files a declaration showing an estimated tax of $40,000.00. The following installment payment schedule results:

Payment	Date	Amount
1	June 15th	$10,000.00 with declarations
2	September 15th	10,000.00
3	December 15th	10,000.00
4	April 15th	10,000.00

No declaration need be made if estimated tax is less than $100.00. Otherwise, a corporation must file a declaration and remit appropriate payment(s).

Every individual with gross income from sources other than wages, as defined in §12-9-10, that can reasonably be expected to exceed $800 for the taxable year must make a declaration of estimated tax for the taxable year, unless the prior year's tax was less than $10.00 or the taxpayer was subject to withholding by his employer under §12-9-310 (3). An individual's required declarations shall be filed with the South Carolina Tax Commission on or before the 15th day of the 4th month following the beginning of the taxable year. This, also, means that the first of four equal installments is due with the declaration on the 15th day of the 4th month following the beginning of the taxable year. **Example:** A calendar year individual taxpayer files a declaration showing an estimated tax of $6,000.00. The following installment payment schedule results:

Payment	Date	Amount
1	April 15th	$1,500.00 with declarations
2	June 15th	1,500.00
3	September 15th	1,500.00
4	January 15th	1,500.00

Observation: This completes the transition phases that began with the state's fiscal year 1965-'66. Those phases have moved us from no estimated payments, to one 25 percent payment, to two 25 percent payments, to three 25 percent payments, and, finally, to four 25 percent payments. Of course, there is a fifth transaction caused by an under or over estimate of the tax, which results in either an additional amount payable with the filing of the tax return or a refund due from the state. The next issue of **Bottom Lines** will deal more with the subject of declarations, payments, penalties, etc. under both state and federal requirements.

LINE FOUR

(Reference: S205 Income; Act 98, 5-20-'81; Effective 5-20-'81.) This provision grants a credit for 25 percent (maximum $2,500.00 per tax year) of all expenditures for purchase and installation of conservation tillage equipment, dual purpose combination truck and crane equipment, and drip/trickle irrigation systems including but not limited to dams, pipes, pumps, wells, installation charges, and other related expenses. The credit for each measure may be claimed in only one tax year. There is a five-year carry-over of unused credits. **Observation:** This is a break for farmers.

LINE FIVE

(Reference: S157 Property; 4-27-'81; Effective for years beginning after 12-31-'77.) This provision exempts personal property leased or lent on a nonprofit basis to a political subdivision or exempt group for at least 30 days during the tax year, if it is used solely for public display and not for direct use of such group or subdivision. The exemption procedures of §12-3-145 do not apply. **Observation:** This represents some property tax relief for those who either lease or lend property to local or state governments or state law exempt groups.

LINE SIX

(Reference: S438 Admissions: Act 131, 6-4-'81; Effective 6-4-'81.) This provision exempts from state admissions tax admission to boats charging fees for pleasure fishing, excursion, sightseeing, and private charter. **Observation:** This is something for those who pay an admission price to ride in a boat.

BEYOND THE BOTTOM LINE

The normal disclaimer is given — do not rely on this column: consult with your tax adviser. The sole purpose of this column is to alert readers to matters worthy of discussion with appropriate professional advisors.

Also, thanks to the many readers who have written in with compliments, suggestions, and criticisms. These will be very helpful as we try to serve your needs in the future. Thanks!

* * *

Much more to come in the future . . . some practical matters will be explored in depth . . . others will merely be identified . . . please share your ideas, questions, answers, etc. — just send them to Dr. James B. Edwards, College of Business Administration, The University of South Carolina, Columbia, South Carolina 29208.

Paying for Prisons

By John F. Kososki and Mee Sim Lee[1]

INTRODUCTION. Crime and the treatment of convicted criminals are very emotional issues. Law-abiding citizens react with increasing fear and indignation as the crime rate continues to go up. Demands are made for legislators to "do something" about the problem. Traditionally, a harsher penalty for those convicted of crimes is the "something" that is done. However, it is difficult for citizens to perceive that they eventually will be paying for the unintended consequences of a burgeoning prison population, a growing correctional budget, and the continuing necessity to construct new penal facilities. How much punishment by imprisonment are South Carolina taxpayers willing to support? South Carolina is already consistently among the top 2 or 3 states in the nation in incarceration rates. There is no substantial evidence that our heavy reliance on prisons to punish criminals significantly lowers our crime rates. We can retain leadership in locking up criminals; however, the taxpayers should be made aware of the economic implications and be provided with public policy alternatives. It is in this context that I invite your attention to the following article by Dr. John F. Kososki and Mrs. Mee Sim Lee which will provide a more extensive and technical insight into the economic and policy issues pertaining to corrections in South Carolina.

—William D. Leeke, Commissioner
South Carolina Department of Corrections

SCDC Commissioner William D. Leeke.

Ever since the mid-1970's, the South Carolina Department of Corrections (SCDC) has been one of the biggest requestors, and also recipients, of Capital Improvements Funds from the General Assembly. In fact, during this period, only the South Carolina Ports Authority requested and received more in the way of permanent improvement funds. Although private concerns and lay persons can heartily endorse the positive contribution the Ports Authority's receipt of funds most likely will entail, the same endorsement cannot be offered in the case of the Department of Corrections.

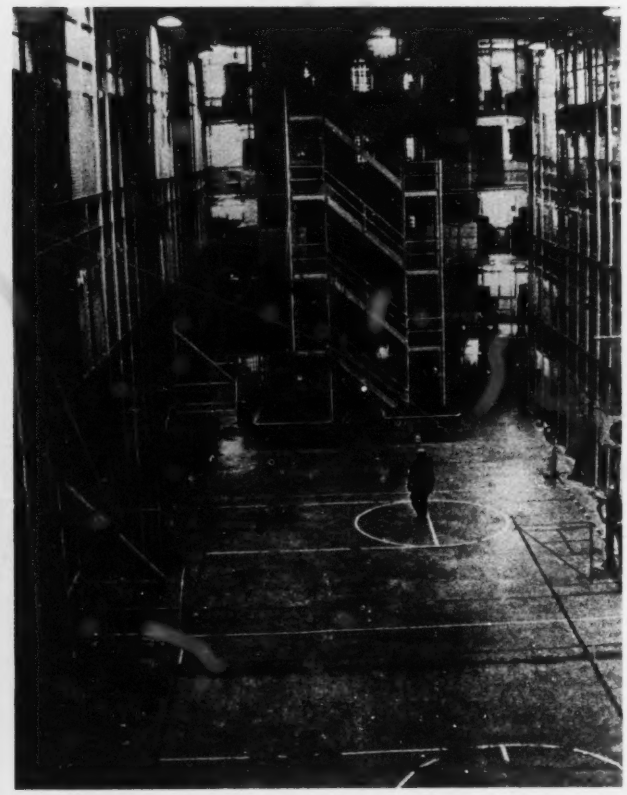
[1]The authors wish to recognize the staff of the Statistics and Analysis Section, Division of Resource and Information Management, South Carolina Department of Corrections, for their assistance in data collection and chart preparation.

Dr. John J. Kososki is Director of the South Carolina Department of Corrections' Division of Resource and Information Management He earned his Bachelor's, Master's, and Doctorate Degrees at the University of Wisconsin, the Massachusetts Institute of Technology, and Harvard University, respectively. Dr. Kososki developed SCDC's automated inmate release system, which ties in with that institution's Earned Work Credit Program. He has also worked with the Department of Corrections on various consulting assignments, including the development of a 10-year capital improvements plan and budgetary, data processing, and inmate records processing projects.

Mrs. Mee Sim Lee is Supervisor of the Statistics and Analysis Section of the Division of Resource and Information Management of the South Carolina Department of Corrections. She received her B.A. and Master's Degrees in Social Science (Economics) from the University of Hong Kong. After further graduate work in the College of Business Administration at The University of South Carolina, she joined SCDC in 1971, where she served in the capacities of Statistician and Assistant to the Commissioner before assuming her present position in 1973.

Of concern, therefore, is the central issue of why the volume of money requests in both capital and operating funds for corrections, especially in a period of burgeoning inflation, higher taxes, and reduced effective personal income. Certainly, the control of such expenditures is of critical importance to both state policy makers and corrections officials.

This article presents an historical perspective and analysis of incarceration costs in South Carolina wherein comparisons are made of SCDC costs to other activities, departments, and states in terms of jurisdictional clientele and concomitant costs. The factors that relate to and explain the costs are developed and analyzed. Also explored are the means of cost containment and the control of expenditure growth, leading to the conclusion that the measures to restrain correctional spending will necessitate the formulation of compatible goals/options for other components of the criminal justice system, resulting in a stabilization of the incarcerated population.



Cellblock #1 at the Central Correctional Institution was constructed in the 1860's as the first state prison in South Carolina. Since then, CCI has grown to include two other cellblocks and 11 dormitories in a hodge-podge of construction which was accomplished when funds were available.

SPENDING ON THE INCARCERATED

Whereas the public is often familiar with the Department of Corrections' (SCDC) clients — "social misfits" who have committed crimes against individuals or society and need to be punished or locked away — it is often unaware of the department's complex array of responsibilities. The Department of Corrections has the statutory mandate to confine, feed, clothe, house, and provide basic humane care for these individuals. As the number of clients requiring confinement and correctional services increase, the total costs of operating the correctional system necessarily rise. As stringent regulations and court orders have evolved over the years, such requirements have also been translated into higher staff ratios and physical requirements, which are inevitably more costly. Above all, as an agency with no control over the number of admissions and only limited flexibility to influence releases, its alternatives for cost containment are quite restricted. The following historical data on SCDC capital improvements and operating expenditures illustrate the relationship between case load and SCDC costs in a comparative perspective.

Capital Expenditures

Chart 1 shows that the SCDC jurisdictional[2] population has increased from 6,264 in Fiscal Year (FY) 1975-'76 to 7,869 in FY 1979-'80 (a 26 percent increase over 4 years). During that same period, population housed in SCDC facilities[3] increased from 5,696 to 7,059 (a 24 percent increase). On the other hand, design capacity bedspace available only increased from 4,238 to 4,606 (a 9 percent increase). SCDC facilities were housing inmates at 34 percent above capacity in FY 1975-'76, and this overcrowding factor increased to 54.9 percent in FY 1979-'80. As a consequence of a successful plea for capital improvement expenditures, renovations and new constructions will add a 962 projected net bedspace increase in FY 1980-'81, reducing the overcrowding factor from 54.9 percent to 30.1 percent.

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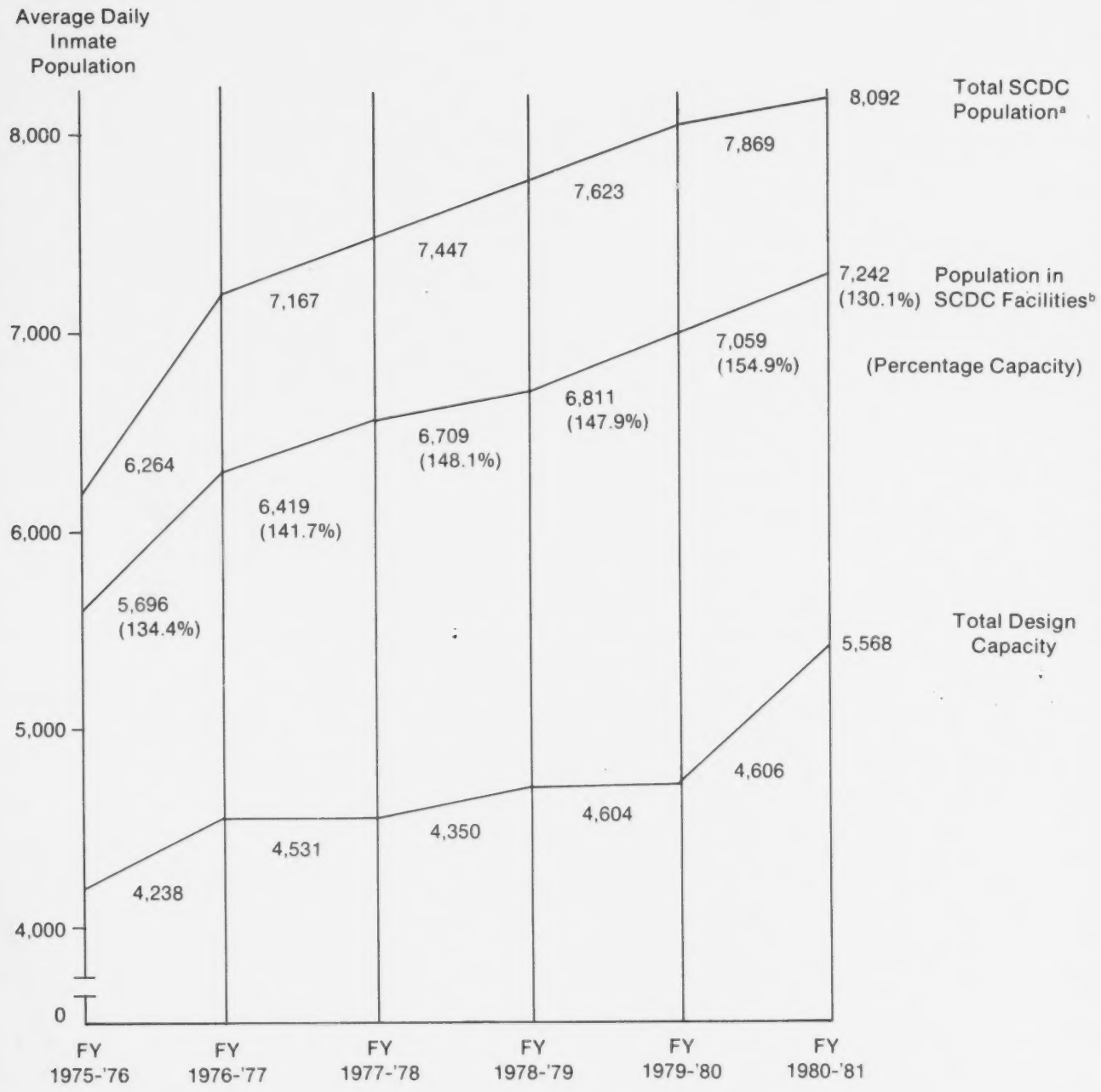
[2]A distinction is made between SCDC jurisdictional population and those housed in SCDC facilities when bedspace capacity and overcrowding factors are considered. Since 1975, to alleviate overcrowded conditions in SCDC facilities, SCDC inmates have been placed in local facilities designated to hold state inmates. SCDC retains jurisdiction and control over these inmates although the counties provide supervision and subsistence.

[3]This refers to facilities directly operated by the SCDC. As of January 15, 1981, SCDC operated 26 facilities, of which 6 were maximum/medium security institutions, 12 minimum security institutions, and 8 work release/prerelease centers.

CHART 1. South Carolina Department of Corrections' Average Daily Inmate Population and Total Design Capacity, FY 1975-'76-FY 1980-'81



[a]This refers to all inmates under SCDC jurisdiction, irrespective of location.

[b]Only inmates housed in SCDC facilities are included herein.

In 1973 and 1974, the SCDC submitted capital improvements proposals to the State Budget and Control Board for phasing out the antiquated and overcrowded Central Correctional Institution (CCI).[4] In 1975, a master plan was developed and formalized to meet both this objective and future growth of the department through 1982. Since the inmate population increased dramatically in 1975, and since continued increase was anticipated, it became apparent that the department's capital improvements needs had to be reevaluated. In May 1976, the consulting firm of Stephen Carter and Associates was retained to complete a 10-year capital improvements plan for the Department of Corrections. The resultant document, **Comprehensive Growth and Capital Improvements Plan,** addressed future population facility construction requirements and cost reducing alternatives to inmate population growth. The number of inmates in SCDC facilities was forecast to be 8,040 in FY 1979-'80 and 12,500 by FY 1985-'86.[5] To accommodate this population level, the consultant recommended a 3-phase capital improvements plan which included the construction of 8,064 new bedspaces to replace some existing facilities and to meet additional needs. The total cost was estimated to be $116 million at the 1976 price level.

The Comprehensive Growth and Capital Improvements Plan was endorsed by the Budget and Control Board, and over a 3-year period, a total of $66,528,978 ($19,720,760 in 1977, $16,033,936 in 1978, and $30,774,282 in 1979) was approved for SCDC's implementation of Phase I, Phase II, and Phase III projects as proposed in the plan. Phase I projects (approved for a total of $26,489,311) upon completion will yield 1,200 beds. The bedspaces to be yielded from Phase II ($18,118,868) and Phase III ($21,920,799) projects are 960 and 768, respectively.

In monitoring the dynamics of the criminal justice system and the impacts of policy change and new programs, SCDC also periodically updates its population projection and capital improvements requirements. Considering the significant effectiveness of the Earned Work Credit Program (EWC) in reducing the incarcerated population[6] and other factors, SCDC revised downward the 1976 forecast. Whereas formerly, the number of inmates in SCDC facilities was projected to reach 12,500 by FY 1985-'86, the new forecast is at 8,261. Continual prison population increases, however, are still expected so that by FY 1990-'91, SCDC facilities should house 8,916 inmates.

The 1980 update of the Capital Improvements Plan provides for the construction of additional new facilities through FY 1990-'91, which includes 2,880 bedspaces for Phases IV, V, VI, and VII at an estimated $86,597,588 based on 1980 costs, and $136,057,266 in inflated dollars. On January 9, 1981, SCDC submitted to the Executive Director of the State Budget and Control Board the projects (Phase IV) proposed for construction during the current legislative year. These projects, when approved and completed, will provide 1,872 bedspaces[7] and various support facilities at an estimated inflated cost of $87,219,224.

Operating Expenditures

Chart 2 shows SCDC's total and per inmate operating costs (based on all funds) during the last 6 years. Whereas per inmate costs ostensibly increased from $4,147 in FY 1974-'75 to $5,666 in FY 1979-'80, discounting inflationary factors, shrinking of buying power has essentially resulted in lower per inmate costs in FY 1979-'80 as compared to 6 years ago. It is also evident that while SCDC's total operating budget increased by 113.7 percent, its average per inmate cost increased only 36.6 percent. More significantly, since the buying power of SCDC's available dollar has been dropping steadily since FY 1974-'75, the true costs per inmate

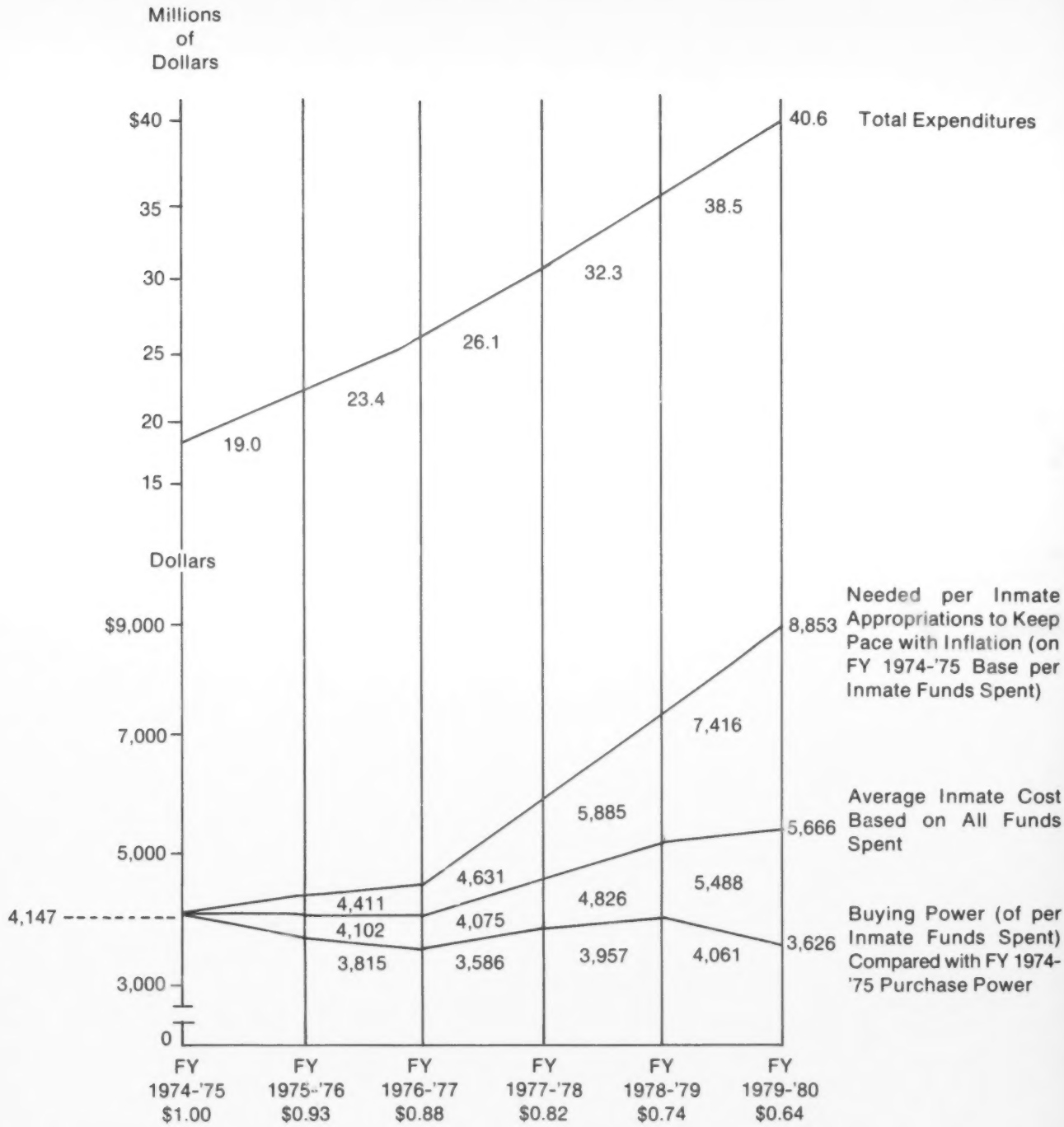
[4]This early concern of the SCDC over the conditions at CCI was further intensified when, in 1977, a class action suit was filed on behalf of all persons currently incarcerated in CCI, or subject to transfer to CCI, or in the future would be in CCI, challenging that the overcrowded living conditions, the inadequate number of security officers, and the deteriorating physical conditions at CCI had violated the Eighth and Fourteenth Amendments, the Civil Rights Law, and the laws of South Carolina to provide the plaintiffs with a safe and healthy environment, reasonable preventive health care, and reasonable protection from violence. This suit, **Mattison, et al. versus South Carolina Board of Corrections, et al.**, was settled by an agreement signed in July 1978.

[5]This population forecast, which constituted the basis of the Stephen Carter and Associates' document, was prepared by the Division of Research and Statistics of the Budget and Control Board. Since then, this projection has been updated annually by the SCDC's Division of Resource and Information Management to reflect the dynamics of the criminal justice system and the effects of policy changes and new programs, such as the Earned Work Credit Program authorized and implemented in mid-1978 as part of the Litter Control Act.

[6]The Earned Work Credit Program was authorized as part of the Litter Control Act signed into law on May 5, 1978. In addition to providing for the use of inmates for litter control and removal, this act authorized SCDC's Commissioner to allow a reduction of the term of sentences of inmates assigned to productive duty. The accumulative effect of this program, since its inception, on SCDC's population size is presented later in this article.

[7]These are **gross** bedspaces. Of the 1,872, 1,344 are replacement bedspaces for facility closures, notably the CCI Complex, and 528 are for projected population increases.

CHART 2. Increased Efficiency Offsets Dollar Shrinkage for SCDC per Inmate Cost and Total Operating Expenditures, FY 1974-'75-FY 1979-'80



Sources: SCDC Annual Budget Requests, FY 1976-'77-FY 1980-'81; and SCDC Financial Synopsis, FY 1979-'80.

in a relative sense have in fact remained fairly stable.

Beyond stability over time, SCDC per inmate operating costs have not kept pace with the appropriated funds per client in other South Carolina agencies with similar institutional responsibilities. Chart 3 compares the average South Carolina appropriated dollars per institutional client for 3 other state agencies with that of SCDC. Unadjusted for inflationary factors, the other 3 South Carolina agencies almost doubled in the last 6 years whereas SCDC's appropriated state dollar per client increased by a meager 38 percent. During the same period, SCDC's clientele increased by 1,828 as a contrast to the total 3-agency decrease of 1,617.

Incarceration costs per inmate in South Carolina have also been relatively low when compared with the national average and those of other states. SCDC's FY 1978-'79 average per inmate cost of $5,488 was only 46.7 percent of the national average of $11,753[8] for the same period. The corresponding figure for federal institutions was $13,589. Even considering wage differentials and other economic differences, South Carolina's per inmate cost was evidently relatively low. When the annual per inmate costs for 34 states[9] in 1979 are compared, South Carolina's incarceration cost per inmate is the third lowest. To control for regional differences, when the projected annual per inmate costs of 15 Southern states are compared for FY 1980-'81, South Carolina's projected figure is 16.4 percent lower than the 15-state average, and ranks the fifth lowest. Therefore, both interstate comparisons suggest that over the years, the correctional system in South Carolina has been relatively efficient or effective in stretching the appropriated dollars to meet the housing, food, clothing, health care, and supervision needs of the incarcerated.

RELATIVELY HIGH DEPENDENCY ON INCARCERATION

Whereas the foregoing comparisons suggest the stability and economy of South Carolina's incarceration costs, South Carolina citizens are spending relatively more on incarceration than their counterparts in other states. Chart 4 illustrates that South Carolina's general population ranked 26th in FY 1974-'75 and 25th in FY 1979-'80. Respectively, its total state adult incarcerated population ranked 13th and 11th. In FY 1979-'80, its incarceration rate[10] ranking among states had risen from third place in the nation to first. South Carolina's leading incarceration rate of 285 was more than double the national average of 131.

As a result of its highest incarceration rate, or the most intensive use of incarceration, South Carolina has witnessed its citizens spending more on incarceration on a per capita basis. Each citizen in South Carolina contributed $14.76 toward incarceration in FY 1979-'80. By contrast, citizens of Pennsylvania, Missouri, Massachusetts, and New Jersey contributed $7.44, $7.90, $10.42, and $11.13, respectively.[11] This result is inevitably the consequence of the compounded effect of South Carolina's relatively smaller general population base and a relatively heavy dependency on incarceration as a means of crime control. Furthermore, had it not been for the efficiency of the incarceration dollars heretofore spent, a more hefty burden on the citizenry of South Carolina would have been experienced.

From the various incarceration cost comparisons heretofore presented, it seems logical to conclude that in South Carolina, the costs to maintain an inmate behind bars have been relatively low and stable. However, this state's citizens, while gaining on the efficiency of the incarceration dollar, are shouldering a heavier burden than their counterparts in other states because of the intense use of incarceration as a response to crime. As a corollary, decreased dependency on incarceration as reflected in the stabilization/reduction of the number incarcerated/incarceration rates would thus be a major component in the control of future expenditure growth. The following, hence, explores the factors that determine prison population size and the potential for future growth.

UNDERLYING FACTORS AFFECTING ADMISSIONS TO CORRECTIONAL SYSTEMS

A discussion of the underlying factors affecting admission to prison and thereby the size of the incarcerated population serves to illustrate the "predictability," but simultaneously the "helpless-

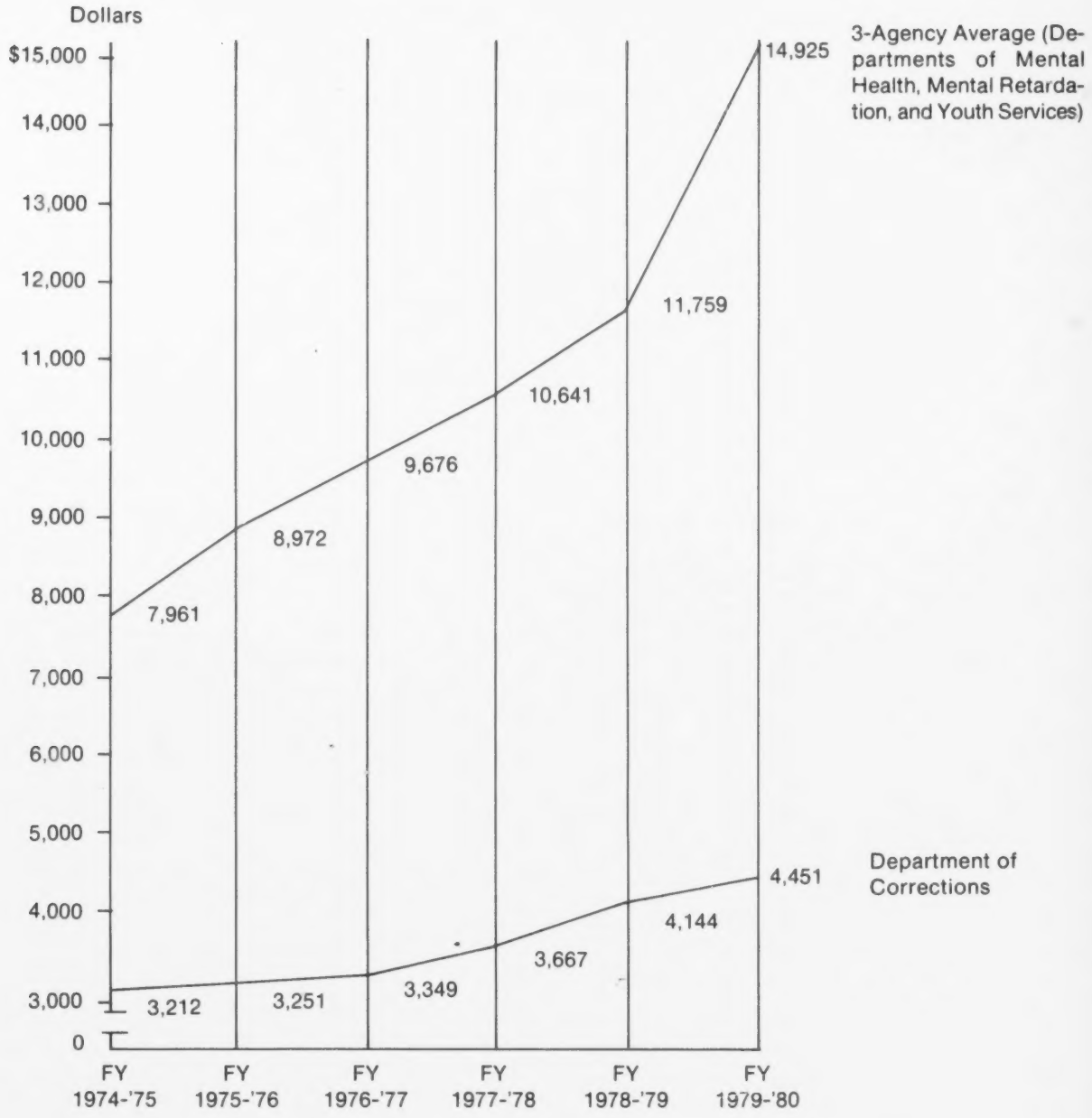
[8]This figure was based on a survey conducted in 1980 by CONtact, Inc., a Lincoln, Nebraska, nonprofit criminal justice information and human service clearinghouse.

[9]Ibid. Statistics were available for only 34 states.

[10]A state's incarceration rate is expressed in terms of the number of inmates incarcerated in the state correctional system per 100,000 inhabitants in the state. It is used generally for measuring the intensity of the use of incarceration for comparisons over and among states.

[11]These states were selected because of the availability and definitional comparability of their operational budgets reflecting solely state adult incarceration costs as reported in the **American Correctional Association Directory 1980.** General population figures for the states are based on published census data.

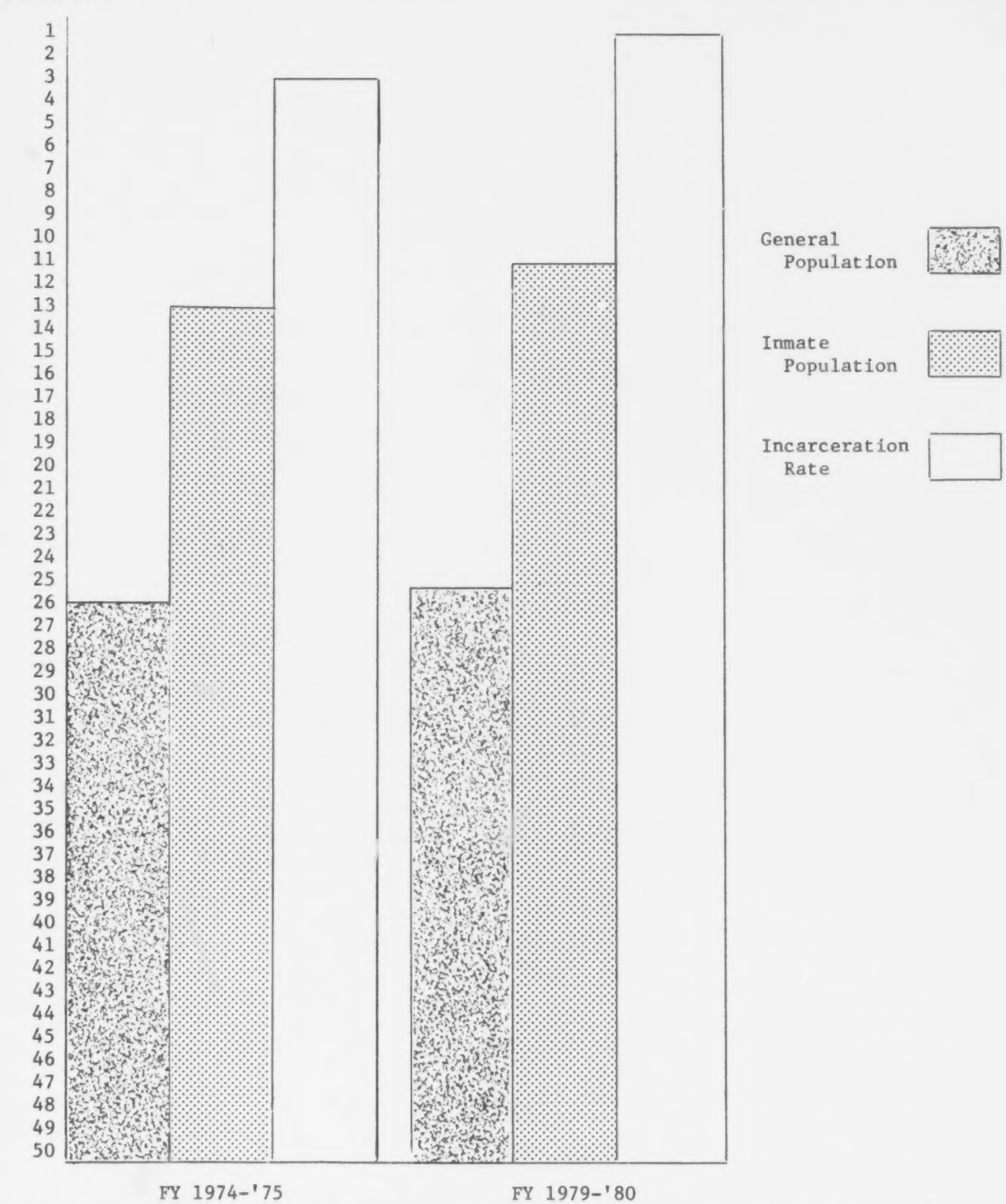
CHART 3. Appropriated Dollars per Institutionalized Client, FY 1974-'75-FY 1979-'80



Source: State of S.C. Appropriations FY 1974-'75-FY 1979-'80.

Note: Data do not include fringe benefits or cost of living increases.

CHART 4. Rankings of South Carolina's General Population and Inmate Population Incarceration Rates, FY 1974-'75 and FY 1979-'80



Sources: FY 1974-'75 data were obtained from the National Clearing House for Criminal Justice Planning and Architecture; and FY 1979-'80 statistics were secured from "United States Incarceration Rates by State and Race, 1979," compiled and published by Frank M. Dunbaugh.

ness," of the correctional agency in controlling the size of its clientele. General population size or population at risk (defined by many criminologists as age 20 to 29) has been used by many correctional planners as the basis for inmate admission/population projection.[12] In fact, the dramatic increase in inmate population in the nation's prisons (12 percent in 1976) was attributed by many to the "coming of age" of the post World War II baby boom.

The fluctuations of the economy also seem to have affected criminal activities. Both national data and SCDC's experience suggest that the large increase in prison population in the mid-70's coincided with the 1974-'75 recession. Moreover, according to a congressional study cited by the "Corrections Digest" in its November 17, 1976, issue, unemployment was found to be a significant factor influencing criminal activities and, subsequently, admissions to prisons. Criminal activities were then considered to be preventable by decreasing unemployment.[13]

When the size of the general population/population at risk affects the magnitude of criminal activities, law enforcement agencies and the judiciary translate such into prison admissions. Over the years, as the incidents of crime have increased, law enforcement agencies also have become more efficient in bringing a larger number of criminals to trial. Subsequently, as solicitors, too, have become more proficient in the prosecution of criminals before the courts, the greater has been the number of criminals sent to prison. As a compound effect of such dynamics, the state's prisons are confronted with an increasing number of admissions and an expanding service population.

RIPPLING EFFECTS OF CRIMINAL JUSTICE POLICIES

Since the correctional system is at the receiving end of the criminal justice system, its clientele are extremely vulnerable to the policies and dispositions of many prior state agencies such as law enforcement, the judiciary, and the probation/parole board. The delayed "rippling" effects of the policies of these agencies, many of them innocuous when initiated, often result in substantial impacts on the correctional system. An example would be the implementation of Section 16-3-20 signed into law June 8, 1977, which provided that "a person who is convicted of or pleads guilty to murder, shall be punished by death or by life imprisonment and shall not be eligible for parole until the service of 20 years."

Prior to the passage of Section 16-3-20 as cited above, the group of offenders concerned could have been eligible for parole after the service of only 10 years. Conceivably it was easy to ignore the impact of such policy change during the deliberations of the legislation since the number of clients affected seemed small, averaging 44 admissions per year the last 2 years. This change in the minimum parole eligibility, however, would have the effect of adding an additional 44 inmates per year to SCDC count starting in 1989, and reaching a maximum increase of 440 inmates by the year 1998.[14] Although the operational cost increase in 1980 dollars of $249,304 ($5,666 × 44) in 1989 may appear distant and inconsequential, the accumulated effect by 1998 would have an increase of $2,493,040 which represents 5.5 percent of SCDC's FY 1981 state appropriated budget of $45,417,174. Of further substantial significance, the changes in law do not immediately affect the size of the prison population or the budget, but when it does impact on the agency in 1989, the rationale for the change and the need for the funds will have long passed by in memory.

Aiken Youth Correction Center, located in Aiken County, is a former U.S. Air Force Station which the SCDC leases from the City of Aiken. It houses approximately 225 young offenders.

[12]In projecting SCDC's inmate population, the Division of Resource and Information Management performed regression analyses of system admissions over time with various "predictor" variables, among which are general population, population at risk, and unemployment rates. The first 2 variables, individually or in conjunction with unemployment, have yielded R^2's as high as 0.9296.

[13]SCDC's population projection effort also utilizes unemployment as a predicator variable to forecast admissions in a regression model that yields an R^2 of 0.9098.

[14]This result is predicated on 44 admissions of this category of inmates per year in the future and no change in the parole success likelihood. Detail analysis is available from SCDC's Division of Resource and Information Management.

Besides the inevitable but delayed increase in recurring operating expenses, one must certainly add the additional construction costs to provide medium security bedspace at $24,426[15] per bed for a total facility of 440 inmates at $10,747,440 by 1998. In fact, SCDC's developed Capital Improvements Plan through 1988-'89 already includes over $2.6 million of additional capital cost for the increase caused by the changes in minimum parole eligibility from 10 years to 20 years.

It should be emphasized herein that SCDC does not take a particular stand on the merits or demerits of any such policy or statutory requirements, and does recognize and respect the public's strong sentiment for the manner in which criminals are to be handled. Nevertheless, the SCDC is the agency that experiences the true consequences of such actions. It further suffers the financial burden when the cost requirements necessary to implement the intent of the law fully are then subsequently not made available.

REDUCING EFFECTIVE TIME TO SERVE

The above illustration of the "rippling" effect of criminal justice policy, in essence, reflects the impact on the inmate population size of varying (prolonging in this case) the length of stay per client. On the other hand, the Earned Work Credit Program illustrates the impact of shortening the effective period of incarceration and thereby the pressure for public resources.

Through the EWC program, an average of 65 percent of SCDC inmates were assigned to 1 of 4 categories of EWC jobs, earning 1 work credit for each 2, 3, 5, or 7 days worked. The work credits are applied toward time served, thereby resulting in a reduction in remaining time to serve and advancing the prospective release date of the inmate concerned.

Although the EWC program was introduced only in mid-1978, 4,704 inmates released from SCDC (50.4 percent of all releases between mid-1978 and June 1980) had their time served reduced as a result of productive work. These 4,704 released inmates had their time reduced by 251,737 inmate days, or 53.5 days per inmate affected. Using the average daily cost per inmate for the period FY 1979-'80 of $13.40 of state funds (or $15.25 of total funds), the reduction in time served by the 4,704 released inmates generated a saving of (or reduced the need for) $3,373,276 in state funds (or $3,838,989 in total funds). Furthermore, as a result of EWC, SCDC's June 30, 1980, count was reduced by 559. As referenced earlier in this article, it is also largely to the credit of EWC that the projected SCDC facility population of 12,500 for 1986 was adjusted downward to 8,261.

The impact of EWC could not guarantee a permanent stabilization of the size of the SCDC inmate population since other factors prolonging inmate time to serve or increasing the number of inmates admitted could more than offset the effect of reduction in time to serve among inmates. As an illustration, if the currently prevailing 0.65 probability of parole hearing success should decrease to 0.5, SCDC's projected average daily jurisdictional population would increase from 8,411 to 8,755 (by 344 inmates or 4 percent) in FY 1981-'82, all other things remaining the same. If SCDC inmates becoming eligible for parole should continue to have the existing average delay of 3½ months before appearing before the Parole Board, SCDC's average daily inmate population would continue to be 446 higher than it would otherwise have been, all other things remaining the same. On the other hand, if inmates with over 1-year sentences should become eligible for parole upon serving one-fourth rather than the existing requirement of one-third of their sentences, SCDC's projected average daily jurisdictional population would be reduced by 612 (6.5 percent) in FY 1988-'89.

Besides parole eligibility and hearing success probability, sentence length is also a key factor in controlling time to serve and subsequently the size of the inmate population. To illustrate, if the projected sentence lengths of future inmates were to increase by 1 year (excluding those with sentences of 1 year or less), the projected jurisdictional population would increase from 8,411 to 8,977 (a gain of 566 inmates or a 6.7 percent increase) in FY 1981-'82, and from 9,603 to 10,572 (a gain of 969 inmates or a 10.1 percent increase) in FY 1989-'90, all other things remaining the same. On the other hand, a decrease in sentence by 1 year for the same future admissions would decrease the SCDC projected jurisdictional population by 232 inmates (a 2.8 percent decrease) in 1982, and by 533 inmates (5.6 percent) in FY 1989-1990, all other things remaining the same.[16]

[15]This is a noninflated cost. In Phase IV of our Capital Improvements Plan, the average cost per bed will exceed $40,000.

[16]The shifts of sentence lengths of future admissions by 1 year either way (increase or decrease) do not yield symmetrical results because of the interaction of earned work credit jobs by inmate sentence lengths, and the condition that inmates with 1-year sentences usually are not heard by the Parole Board, except in special cases. They, therefore, max-out rather than receive parole.

Despite the substantial potential and apparent ease of the aforementioned factors in "regulating" inmate time served and subsequently the size of the incarcerated population, the significant truth is that the SCDC is not in control of these factors, and, subsequently, the level of its service population; and, as such, is the only state agency so situated. Furthermore, as earlier discussed, in the absence of immediate and tangible positive/negative consequences such as an increase/decrease in case load/financial burden to the agencies in control of such "regulatory" mechanisms, it is conceivable that the factors cited in the foregoing have not been utilized in "stabilizing" or "optimizing" the size of the incarcerated population.

COST VARIATIONS — FACTORS CONTROLLING INTERNAL OPERATIONAL EFFICIENCY/COSTS

Just as all state agencies have to conform to relevant regulations and standards, SCDC has to adjust its operations realistically to meet court decrees and other regulations which very often increase operational costs. The consent court decree at the Central Correctional Institution (CCI)[17] to relieve overcrowding and to add additional security, the continuing trend of counties requiring SCDC to transport newly adjudicated offenders, and the easier access of inmates to subsequent court hearings and rehearings all require additional time from security personnel above and beyond previously identified requirements. As an illustration, an old standard staffing ratio of 4.8 correctional officers for each 24-hour-per-day-7-days-per-week post promulgated in 1976 translated itself to post coverage of 5.38 officers per 24-hour post when the latest experience with turnover, vacancy, annual and sick leave, and training requirements were reevaluated. The application of this new factor yields an increased staffing requirement of 12 percent over the 1976 level. When coupled with the increase in inmate population, the uncontrolled security need from staff increased by 40 percent (the compounding of 25 percent inmate growth and 12 percent time availability shrinkage).

Besides staffing, corrections' operating costs are affected also by factors relating to the economies of scale, such as the size of the facilities, the degree of overcrowding, the organizational structure (centralization versus decentralization of certain functions), the conditions of facilities that determine maintenance costs and utilities, and the availability of human services/programs which are often specified by regulations or legal/professional standards. Experience in several states evidenced generalizations such as: overcrowding in medium/maximum security facilities designed for incarceration leads to lower costs per inmate; and utilization of alternative facilities not originally designed for incarceration leads to higher per inmate costs, with the increase being higher for medium/maximum, than for minimum, security facilities. It is also noted that in institutions with a secured perimeter, the operating costs per inmate are very high for small-sized facilities and decline sharply for larger sizes. Beyond the 500 inmate facility, the operating cost efficiencies are minimal for additional increases in size. These cost variation factors explain, to a great extent, the variance in individual states' per inmate costs. The Department of Corrections in South Carolina clearly has had to resort to an overcrowding strategy, not only to meet its bedspace shortage problems but also to meet its operational requirements with severely constrained financial resources.

CONTROL OF EXPENDITURE GROWTH

Earlier analysis in this article has demonstrated that although South Carolina's per inmate costs are relatively low, its commitment to incarceration is relatively high. Based on the key underlying factors affecting offender flow and inmate population, SCDC's jurisdictional inmate population is projected to increase from 7,869 in FY 1979-'80 to 9,735 in FY 1990-'91. The number of inmates in SCDC facilities is projected to be 8,916 in FY 1990-'91. However, SCDC's existing facilities, with the additional capital improvements projects already approved by the legislature (Phases I, II, III), would provide only 7,574 beds after closure of certain outdated facilities. To provide for additional new facilities to meet projected inmate population growth, proposed Phases IV, V, VI, and VII contructions would cost an estimated $41,477,755 based on inflated costs.[18]

Given the aforementioned financial needs, of grave concern to policymakers, therefore, is the problem of the desirability, necessity, and fiscal ability of the state to construct and operate additional facilities and to support additional inmates. Sustaining SCDC facility population at

[17]See footnote 4, this article.

[18]The $41,477,755 figure cited here pertains to construction requirements necessitated by projected inmate population growth not already provided for by approved facilities. The balance of Phases IV through VII is intended for constructions to accommodate facility closures, support facilities, renovations, and equipment.

already approved bedspace level (7,574 rather than 8,916), barring future increases in correctional expenditures, will thus eliminate a minimum of $41.5 million in capital improvement needs as well as reduce operating expenses by approximately $7.6 million a year at the current price level (at the FY 1979-'80 per inmate cost of $5,666).

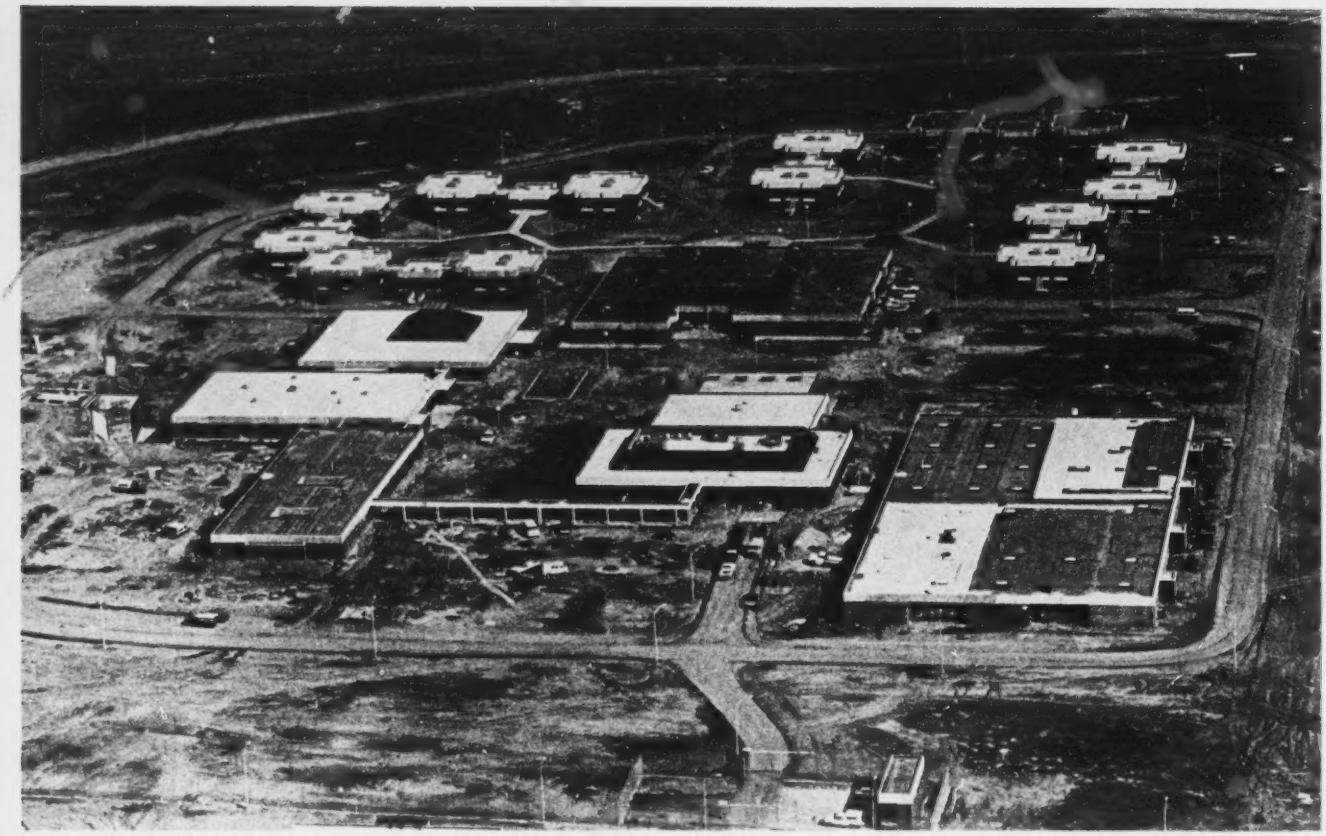
In the context of cost containment, the factors affecting correctional expenditures discussed heretofore perhaps could be reviewed in 2 categories. First, there are those cost controls that are internal to the correctional system, which correctional managers could possibly effectively implement. Among these are such measures as centralizing functions, operating optimum size facilities and closing cost-inefficient ones, designing effective facility and perimeter security, and making energy efficient renovations. Whereas reductions in operating costs could be substantial from such managerial measures, they will be inadequate, and in fact negligible, in the stabilization of corrections' long-range demand for tax dollars, as long as admissions continue to increase and inmates are to be housed and fed for the same length of time, if not longer. The central issue for cost containment or control of expenditure growth inevitably lies in the stabilization of inmate population growth and therefore with those factors external to the correctional system. Whereas public policy could affect, to some degree, unemployment and the intensity of crimes in the community, it is primarily in the philosophy and policies formulated for handling criminals that the decisive role for future cost containment lies.

Deinstitutionalization has long been considered by criminal justice professionals to be a promising strategy for stabilizing the incarcerated populations, thereby controlling expenditure growth. The alternatives to incarceration frequently focus on diversion of inmates with victimless and/or nonviolent crimes from the criminal justice system, or their placement in the relatively low cost correctional service component of probation or various forms of community supervision. As a simplified illustration, if inmates with sentences of 1 year or less had been placed in community-based intensive supervision programs, such as probation with restitution, SCDC's admissions in FY 1979-'80 would have been reduced by 1,562 (30.8 percent of all admissions). Had these individuals been diverted from prison, the inmate population at the end of FY 1979-'80 would have been 486 less (a reduction of population size of 6 percent). Maintaining 486 inmates in prison costs South Carolina taxpayers $2.8 million a year. By contrast, parole supervision at an annual average cost of $200 per client comes to only $97,200. A shift of the correctional clientele from the high cost incarceration component ($5,666 a year) to the low cost probation and parole supervision component ($200 per year), therefore, would save taxpayers approximately $2.7 million for the 486 inmates.

In addition to the diversion of short-termers (a strategy which often is more palatable and seemingly less threatening to the public), population/cost stabilization plans also necessarily focus on "long-termers." As the "rippling" effects of criminal justice policies and legislative provisions heretofore discussed begin to take their toll, the state prisons will be holding more inmates, among whom an increasing proportion will be long-time residents. In fact, even before the parole eligibility statute relating to lifers convicted of murder takes effect in 1989, SCDC will experience (in fact, already is experiencing) a gradual build-up of inmates who have to be fed and housed for a long time to come. Numerically, the number of inmates with over 10-year sentences in SCDC has more than doubled in 6 years. At the end of FY 1973-'74, there were 1,182 inmates with over 10-year sentences (32.4 percent of the total inmate population) as compared to 3,237 (40.0 percent of the total inmate population) at the end of FY 1979-'80. If this should reflect an increase in sentences handed down by the courts (with the severity of crimes remaining the same), the state's prison system can very well expect a continual build-up of incarceration costs because of the slow turnaround of a growing proportion of its inmate population. It seems logical, therefore, that the cost phenomenon of delayed impact will have even more severe implications for SCDC than heretofore experienced.

While strategy specifics and implementation authority would inevitably involve planning and coordination among various criminal justice agencies, an analysis of the quantitative relationship among admissions, releases, and SCDC existing population reveals interesting results. Of particular relevance are the following observations. If SCDC's future population is to be sustained at approved bedspace capacity, everything else remaining unchanged, its predicted yearly admission level will have to decrease at an increasing rate. While a 3.9 percent decrease in admissions will be sufficient in FY 1983-'84, a 17.8 percent reduction in the projected admission level in FY 1990-'91, all other things remaining the same, will be required in order to ward off population increases and subsequent additional bedspace demand.[19] Another

[19]Details of this analysis and other aspects of the SCDC population projection model are available from the Division of Resource and Information Management, SCDC.



Kirkland Correctional Institution was constructed in 1975 and designed to house 448 inmates in single cells. It was hoped that Kirkland would replace Cellblock #1 (see photo #4) at CCI and that the old cellblock could be phased out. However, there were more than 600 inmates in Kirkland before the fences were completed; and today, the institution houses more than 1,100 inmates. The typical living situation at Kirkland is now three men in a one-man cell.

alternative to sustain inmate population at bedspace capacity would be to reduce the time to serve of "long-termers." Overall, the quantitative analysis concludes that if SCDC population is to be held at the level of bedspace capacity, then future admission levels or their time to serve will have to decrease individually or simultaneously. To realize a reduction in time served, sentence reduction, increased parole hearing success, and earlier parole eligibility requirements are among the possible strategies resulting in a "faster" turnaround of the prison population.

CONCLUSION

Correctional economics has emerged from relative obscurity into the public limelight in recent years as the rippling effects of increasing crime, more effective law enforcement, and more severe punishment have flooded our prisons with an ever growing inmate population. The apparently soaring total prison operating budget and the mammoth capital improvement projects required to house, feed, clothe, and supervise "social misfits" and criminals naturally have raised both economic and philosophical concerns of financial feasibility and desirability, especially in the current mood of fiscal restraint in government. In offering this historical and comparative analysis of incarceration costs in South Carolina, unfolding the more immediate and other underlying factors governing inmate population size and expenditure growth, these authors have not attempted to defend the incarceration budget or the projected capital improvements. Rather, their brief treatise has demonstrated that corrections' apparently increasing burden on the public coffer culminates from the delayed effects of increasing crime and other public policy choice undertaken therefrom in the past. Just as in any economic exercise or public policy analysis where conflicting or incongruent interests or policy options have to be evaluated concurrently to derive the optimal allocation of resources, measures to control or restrain correctional spending will necessitate the formulation of compatible goals/options for the other components of the criminal justice system, resulting in a stabilization of the incarcerated population.

Tourism Along the Grand Strand[1]

By Darcy R. Carr and James Franklin Eason

Tourism in South Carolina is big business. According to the South Carolina Department of Parks, Recreation, and Tourism, it is the second largest industry in the state.[2] Since the Grand Strand has historically been the primary destination for numerous South Carolina vacationers, considerable state and local revenue has been generated from the many tourist attractions in that area.

The South Carolina Department of Parks, Recreation, and Tourism, the South Carolina Chamber of Commerce, the Myrtle Beach Area Chamber of Commerce, and other interest groups play a vital role in promoting tourism along the Grand Strand. These groups believe that this particular area has much to offer the vacationer.

Many observers, however, argue that the Grand Strand is becoming too commercialized and that its authentic beauty is declining. They also argue that beach erosion, sign and zoning ordinances, and the proposed hotel/motel room tax may reduce the number of tourists vacationing in that area. Furthermore, new prospects may not be attracted if these important issues are not handled properly.

By examining tourists' responses to questions regarding economic and environmental conditions, this article attempts to explain the following factors about tourism along the Grand Strand: (1) what attracts some tourists to the Grand Strand year after year, and (2) why some other tourists do not plan to return.

METHODOLOGY

Tourists were surveyed to determine (1) what attracts them to the Grand Strand, (2) their expenditure patterns while vacationing, and (3) if they do not plan to vacation here in 1981, why not. Hotels/motels were selected from the Hotel-Motel Association Membership List which contains the names of 204 hotels/motels and represent 10,824 rooms on the Grand Strand of South Carolina. In order to obtain a representative sample of tourists the list was subdivided into 3 groups of small (under 51 rooms), medium (51-99 rooms), and large (100 or more rooms) establishments. Each of these groups represented 3,736, 3,375, and 3,713 rooms, respectively. Hotels/motels from each group were then randomly selected so that each group would

[1]The authors wish to express their thanks to the Myrtle Beach Hotel-Motel Association for their participation in this survey. Any errors are the responsibility of the authors.

[2]South Carolina Department of Parks, Recreation, and Tourism, **Tourism: What Its Economic Impact Means to South Carolina** (Columbia, S.C.: South Carolina Department of Parks, Recreation, and Tourism, 1979), p. 2.

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be equally represented in our potential sample of 2,000 vacationers. The two-page surveys with attached cover letter and return envelope were delivered to each hotel/motel for distribution. The number of surveys delivered was equal to the number of rooms in that particular establishment. Hotels/motels were given the option of placing the surveys in the rooms or distributing the surveys to the tourists upon their arrival. Of these, 250, or 12.5 percent were returned. We cannot be certain that the subsample of 250 is a random sample of the 2,000 target sample thus, we must qualify our conclusions with the caveat that the subsample may be biased. Despite this constraint, however, the results do give some insight into what is important to Grand Strand tourists.

RESULTS

The statistical profile of the respondents indicates that each was (1) just as likely to be male as female, (2) over 21 years of age, (3) married, (4) at least a high school graduate, (5) earning in excess of $20,000, and (6) was from over 250 miles away. Further, 77 percent indicated that they had vacationed in the area before. They were, in fact, quite faithful as evidenced by the fact that, on the average, this was the sixth consecutive year they had vacationed on the Grand Strand. Of those responding, 35 percent stated that their primary reason for returning was the natural beauty of the area (Table 1). The availability of recreational facilities was listed as the secondary reason. In fact, about 61 percent of the respondents listed natural beauty and 42 percent indicated availability of recreational facilities as either their first or second reasons for returning. Accessibility (less traveling distance) was also a commonly cited reason for choosing the Grand Strand as a vacation spot. Approximately 18 percent of the tourists presented "other reasons" (visiting relatives, attendance at a convention) for vacationing there.

TABLE 1. Reasons the Grand Strand is Preferred over Other Vacation Areas

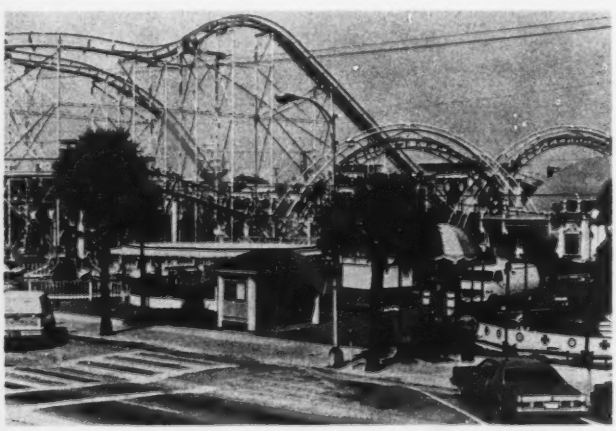
Reasons	(Percentage Responding in Order of Priority)						
	1	2	3	4	5	6	7
Natural beauty of the Grand Strand	35%	26%	11%	4%	1%	1%	2%
Recreational facilities on the Grand Strand	22	20	16	8	2	4	1
Less traveling distance	17	8	7	4	5	10	5
Availability of hotel/motel accommodations	5	20	16	13	8	2	0
Lower hotel/motel rates	2	1	6	11	13	9	2
Lower restaurant prices	0	3	5	8	14	13	2
Other — Please specify	18	4	4	0	1	0	1
Percentage of respondents answering	100%	82%	65%	48%	44%	39%	12%

Of those respondents who had not previously vacationed along the Grand Strand, "other reasons" were primarily responsible for their choice of the area. Natural beauty and less traveling distance were also important factors. Neither group, however, felt that lower hotel/motel rates or restaurant prices were instrumental in their choice.

Disaggregating the data into "small," "medium," and "large" hotels/motels provides rather limited additional information. Tourists staying in large hotels tended to be single, to have higher incomes, to use air transportation, and to be less faithful to the Grand Strand as a vacation location.

Further, 67 percent of the respondents indicated an intention to vacation along the Grand Strand next year. Most of these tourists did not anticipate upgrading their accommodations or patronizing more expensive restaurants.

Reasons for not planning to return next year are presented in Table 2. For these vacationers a trip along the Grand Strand was predicated by many to be too costly because of an increase in the rate of inflation. (Other responses on the survey had indicated that the vacationers were spending more money this year than last year on all vacation related activities.) However, "other reasons" are by far the major reason for not returning. The majority of these reasons are largely uncontrollable and not specifically related to what the Grand



Corkscrew at Myrtle Beach Amusement Park. (Photo courtesy of Coastal Carolina College)

Strand has to offer vacationers. The excessive traveling distance was a strong negative factor for those in large hotels. Room rates generally were perceived as being too high. Those staying in small and medium-sized motels complained about the area's being too crowded. Although some expressed concern that the natural beauty of the area was declining, this was not a major factor.

TABLE 2. Reasons for Not Vacationing on the Grand Strand in the Future

Reasons	(Percentage Responding in Order of Priority)							
	1	2	3	4	5	6	7	8
An increase in inflation rate will make it too costly for a vacation along the Grand Strand	14%	4%	4%	6%	1%	0%	5%	1%
Traveling distance too great	14	6	6	1	4	1	3	6
Too crowded along the Grand Strand	10	1	1	3	4	6	1	1
Hotel/motel rates too high	8	10	6	4	3	1	0	1
Gasoline prices too high	3	7	3	7	4	6	0	0
Natural beauty of the Grand Strand decreasing	3	6	3	1	3	1	3	6
Insufficient recreational facilities	3	3	3	1	0	3	8	3
Restaurant prices too high	1	4	8	4	6	3	0	3
Other — please specify	44	1	0	0	0	0	1	0
Percentage of respondents answering	100%	42%	34%	27%	25%	21%	21%	21%

CONCLUSIONS AND IMPLICATIONS

The findings of this study are:

1. Vacationers along the Grand Strand tend to return year after year.
2. The natural beauty of the area and the availability of recreational facilities are overwhelming influences on the decision to return.
3. High rates of inflation are an important influence on the decision not to return to the Grand Strand. Other factors beyond the control of hotel/motel interests also are important.
4. Although some differences were cited among the tourists at small, medium, and large hotels/motels, they tend to be a rather homogeneous group.

There are several important implications. Efforts to maintain what remains of the natural beauty probably should be encouraged. Activities such as beach erosion control projects appear to be critical if the tourist is to remain happy. Beautification policies and projects currently in effect in Myrtle Beach would seem to be especially desirable for maintaining the environment the tourists seem to want e.g., landscaping, and sign and zoning ordinances that control population density.

The tourists do not believe a vacation along the Grand Strand is inexpensive. In fact, one of the frequently mentioned reasons for not returning was high room rates. Thus, hotel/motel owners may be faced with considerable resistance if higher prices are charged for their services.

This study also generates many questions. Are local efforts to maintain the natural beauty sufficient? Should future growth be more strictly controlled? (Only 13 percent of the respondents felt that the number of hotel/motel accommodations along the Grand Strand should be increased.) Should there be a greater effort to increase the use of air transportation? Since high prices seem to be a concern, what would be the impact of a room tax on the typical tourist's decision to vacation along the Grand Strand?

Limitations of the study must be recognized. The survey instrument utilized was simplistic, and statistically valid analysis is extremely difficult. Thus, any conclusions drawn must be tentative at best. The narrow scope of the study requires a proviso on generalizations about the findings. The report has the typical limitations concerning size and depth. However, the results are provocative and certainly suggest the need for a more intensive examination of the issues raised since the long-term consequences are so critical for the Grand Strand.

Deep-sea fishing out of Little River and Murrells Inlet is a popular spring, summer, and fall sport along the Grand Strand. The local college, USC-Coastal Carolina, even runs intercollegiate sport-fishing matches and seminars. (Photo courtesy of Coastal Carolina College)

Do Consumers Think the Quality of Food on the Dinner Table Is Better Now Than in 1960?

By Arch G. Woodside and Subhash Sharma

Directly or indirectly, one of every four jobs in the South Carolina labor force depends on the state's agricultural industry. The revenue earned by the South Carolina farm industry is greater than the revenues earned by the state's textile or tourism industries. An efficient greening of South Carolina occurred in the 1970's, i.e., the product yields per acre increased while the labor required per acre decreased. The quality of South Carolina farm products increased through the 1970's due to the applications of improved strains of seeds, fertilizers, and insecticides. This resulted in lower food costs as a percentage of family income in 1980 as compared with 1960.

But — are consumers in South Carolina really cognizant of this? If not, what are their perceptions of the South Carolina farm industry? To answer such questions, these authors conducted a survey of a representative sample of adults in 350 South Carolina households in October 1980. The results of this survey revealed substantial differences between consumers' perceptions and reality.

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METHOD

A two-page questionnaire was developed with the cooperation of the South Carolina Department of Agriculture. It consisted of 22 belief and attitude questions, and two classification questions (sex and age of the respondent). Participants were asked to identify their age in 10-year periods, from under 30 to 50 or over.

The belief and attitude items were developed to cover a wide range of economic issues related to consumers' perceptions of the South Carolina agricultural industry. The complete list of 22 items appears in Tables 1 and 2.

The survey was sent by mail to 500 South Carolina households on The University of South Carolina's College of Business Administration Consumer Panel. Panel membership covers North and South Carolina and is representative of households with incomes above $16,000.

A total of 350 (70 percent) completed surveys were returned within the first 30 days following the mailing. The results of the study are based on these returns.

"This study should be completed by an adult member of your household," was the first instruc-

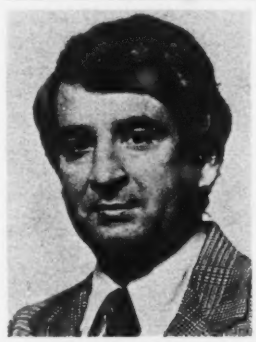

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TABLE 1. Results of 1980 South Carolina Household Opinion Survey on the South Carolina Agricultural Industry (n=350)

Question	Respondents	Responses				
		Much Greater	Greater	Less	Much Less	
1. In 1979, was the revenue earned by the South Carolina farm industry greater or less than the revenue earned by the South Carolina textile industry?	Women (41%)	0%	18%	71%	11%	
	Men (59%)	4	42	51	3	
	Total	2	32	59	7	
		Much Greater	Greater	Less	Much Less	
2. In 1979, was the revenue earned by the South Carolina farm industry greater or less than the revenue earned by the South Carolina tourism industry?	Women	1%	33%	58%	8%	
	Men	8	51	33	8	
	Total	5	44	43	8	
		15¢	20¢	25¢	30¢	40¢+
3. Please estimate the part of your food dollar received by the **farmer** in 1979.	Women	20%	23%	20%	13%	24%
	Men	28	18	16	14	24
	Total	24	20	18	13	25
		1 in 30	1 in 20	1 in 10	1 in 8	1 in 6 or fewer
4. About what percentage of the South Carolina labor force depends directly or indirectly on the agricultural industry for employment?	Women	23%	19%	21%	15%	22%
	Men	15	25	26	14	20
	Total	19	23	24	14	20
		0%	1% to 10%	11% to 20%	21% to 30%	30%+
5. About what percentage of the average South Carolina farmer's income comes from government payments and subsidies?	Women	1%	22%	33%	29%	15%
	Men	0	26	44	17	13
	Total	1	24	39	22	14
		Higher	About the Same	Lower		
6. Is the average farmer's personal income in South Carolina higher, about the same or lower than the average personal income earned by persons in other occupations in South Carolina?	Women	3%	33%	64%		
	Men	11	35	54		
	Total	8	34	58		
		0%	1% to 10%	11% to 20%	21% to 30%	30%+
7. About what percentage of South Carolina farm products was sold to foreign countries in 1979?	Women	0%	30%	37%	21%	12%
	Men	1	26	40	25	8
	Total	0	28	39	23	10
		Increased	Kept the Same	Decreased		
8. Should the attempt to sell South Carolina farm products to foreign countries be increased, kept the same, or decreased in the future?	Women	38%	25%	37%		
	Men	72	18	10		
	Total	59	21	20		
		Yes	No	Not sure		
9. Should the South Carolina farmers receive federal and state relief funds to cover their losses from the lack of rain or drought in 1980?	Women	69%	4%	27%		
	Men	54	20	26		
	Total	60	13	27		
		Less than 20%	20% to 40%	41% to 60%	61%+	
10. About what percentage of South Carolina farms produced crops and/or livestock that sold for $100,000 or more in 1979?	Women	60%	31%	7%	2%	
	Men	54	33	9	4	
	Total	56	32	8	4	
		Farmer	Mfg./ Processor	Wholesaler/ Distributor	Supermarket/ Retailer	Other
11. Who is the most responsible for the increase in your food costs from 1978 to 1980?	Women	1%	37%	35%	17%	10%
	Men	1	49	31	10	9
	Total	1	44	32	13	10

TABLE 2. Beliefs by South Carolina Household Adults on the South Carolina Agricultural Industry (n=350)

Belief Statement	Respondents	Beliefs		
		True	False	Uncertain
1. South Carolina farmers are skilled businessmen who manage a large investment and have to take risks.	Women	78%	14%	8%
	Men	82	13	5
	Total	81	14	5
2. Most South Carolina farmers are supported by federal farm subsidies.	Women	29	40	31
	Men	31	47	22
	Total	30	44	26
3. Most South Carolina farmers borrow money each year to buy seeds, insecticides, and fertilizers.	Women	77	9	14
	Men	80	13	7
	Total	79	11	10
4. The quality of food on the United States household dinner table is better in 1980 than in 1960.	Women	47	39	14
	Men	58	31	11
	Total	54	33	13
5. American families spend less money for food as a percentage of their income in 1980 than in 1960.	Women	11	82	7
	Men	25	70	5
	Total	20	75	5
6. Few South Carolina farmers actually had a real reduction in their incomes caused by the weather in 1980.	Women	15	66	19
	Men	23	65	12
	Total	20	66	14
7. American families spend less money for food as a percentage of their income than families in Western Europe.	Women	48	31	21
	Men	61	23	16
	Total	56	26	18
8. Farming ranks among the top four South Carolina industries in dollar revenue in 1979.	Women	46	25	29
	Men	80	11	9
	Total	66	17	17
9. Farming ranks first among South Carolina industries in dollar revenue in 1979.	Women	3	67	30
	Men	21	61	18
	Total	14	63	23

(continued)

TABLE 2 (continued)

Belief Statement	Respondents	Beliefs		
		True	False	Uncertain
10. The South Carolina farmer can be described best as a man behind a mule and a plow.	Women	8	88	4
	Men	4	96	0
	Total	5	93	2
11. Most South Carolina farmers are well-off financially.	Women	15	63	22
	Men	26	55	19
	Total	22	58	20

tion on the questionnaire. A total of 41 percent of those responding were women. The adult member of the household most interested in the survey topic is assumed to have completed the questionnaire.

RESULTS

The main results appear in Tables 1 and 2. They are shown for women, men, and total respondents.

Perceptions of the South Carolina agricultural industry by adults differed often from reality. Most adults perceived 1 in 10 jobs or fewer to be dependent on the agricultural industry in South Carolina. Most perceived that the textile industry (66 percent) and the tourism industry (51 percent) earned more revenue than the agricultural industry. Nearly half (46 percent) did **not** perceive the food on the United States dinner table as being better in 1980 than in 1960. Most perceived American families as spending more money for food as a percentage of their incomes in 1980 than in 1960.

Farm Exports

About 39 percent of the respondents thought 11 to 20 percent of South Carolina farm products were sold to foreign countries in 1979. Most (59 percent) believed such exports should be increased. However, the majority (62 percent) of women did **not** believe farm product exports should be increased, while 72 percent of the men did support such increases. See Table 1, question 8, for details.

Further details appear in Table 3. Most of the respondents who thought exports were a substantial percentage (above 30 percent) of farm production did not support export increases in the future, while most of the respondents who perceived exports to be less than 30 percent of farm production did support export increases.

TABLE 3. Percentage of Products Sold to Foreign Countries, and Beliefs That the Attempt to Sell South Carolina Farm Products to Foreign Countries Should be Changed

About what percentage of South Carolina farm products was sold to foreign countries in 1979?			Should the attempt to sell South Carolina farm products to foreign countries be increased, kept the same, or decreased in the future?		
			Increased	Kept the Same	Decreased
29%	1% to 10%	n=99	57%	27%	16%
38	11% to 20%	n=129	65	16	19
23	21% to 30%	n=79	56	24	20
10	30%+	n=33	39	18	43
100%	Total	n=340	58%	21%	21%

Interpretation. Adults perceiving that a high percentage of South Carolina farm products are sold to foreign countries **less** often reported such sales should be increased as compared with adults perceiving a low percentage.

Attitudes toward Relief Funds

Should South Carolina farmers receive federal and state relief funds to cover their losses from the lack of rain in 1980? The beliefs of South Carolina adults on this issue depended on their perception of the farmers' income received from government payments, relative income earned, and whether or not most South Carolina farmers are supported by federal farm subsidies. See Tables 4, 5 and 6.

Willingness to support federal and state relief funds to cover farmers' losses due to drought

decreased as the perceptions of government subsidies as a percentage of farmers' income increased. This is shown in Table 4.

TABLE 4. Government Subsidies to Farmers, and Attitudes Toward Relief Funds to Cover Losses

About what percentage of the average South Carolina farmers' income comes from government payments and subsidies?			Should South Carolina farmers receive federal and state relief funds to cover their losses from the lack of rain or drought in 1980?		
			Yes	No	Not Sure
24%	1% to 10%	n=81	74%	12%	14%
39	11% to 20%	n=130	62	12	26
23	21% to 30%	n=76	49	17	34
14	30+	n=44	48	18	34
100%	Total	n=331	60%	14%	26%

Interpretation. Adults perceiving that a low percentage of the farmers' income came from government payments were more often in favor of federal and state relief funds to cover losses from drought than adults perceiving a high percentage.

Adults who perceived farmers' personal income to be lower than personal income in other occupations most often supported governmental relief funds. Support of relief funds was less among adults perceiving farmers to earn relatively high personal incomes. Details appear in Table 5.

TABLE 5. Farmers' Personal Income and Attitudes toward Relief Funds

Is the average farmer's personal income in South Carolina higher, about the same, or lower than the average personal income earned by persons in other occupations in South Carolina?			Should South Carolina farmers receive federal and state relief funds to cover their losses from the lack of rain or drought in 1980?		
			Yes	No	Not Sure
8%	Higher	n=26	50%	38%	12%
35	About the Same	n=116	48	17	35
57	Lower	n=191	68	8	24
100%	Total	n=333	60%	14%	26%

Interpretation. Adults perceiving South Carolina farmers' personal income to be higher than personal incomes earned by persons in other occupations more often believed that federal and state relief funds should **not** be provided to cover losses from drought than did those adults who perceived South Carolina farmers' personal income to be lower (38 percent versus 8 percent).

Those respondents who felt that South Carolina farmers, should **not** be supported by federal farm subsidies were more often (69 percent) in favor of relief funds. See Table 6 for details.

Financial Well-Being

Those participants who saw South Carolina farmers as being well-off financially had a greater tendency to believe farmers were supported by federal farm subsidies than did those adults who were uncertain about the farmers' well-being. See Table 7 for details.

TABLE 6. Support by Federal Farm Subsidies and Attitudes toward Relief Funds

Most South Carolina farmers are supported by federal farm subsidies.			Should South Carolina farmers receive federal and state relief funds to cover their losses from the lack of rain or drought in 1980?		
			Yes	No	Not Sure
30%	True	n=101	50%	21%	29%
44	False	n=147	69	14	17
26	Uncertain	n=87	54	6	40
100%	Total	n=335	59%	14%	27%

Interpretation. Adults perceiving most South Carolina farmers to be supported by federal farm subsidies more often (21 percent) stated that South Carolina farmers should **not** receive relief funds than did those adults who were uncertain whether most South Carolina farmers receive subsidies.

TABLE 7. Perceptions of Farmers' Financial Well-Being and Support by Federal Farm Subsidies

Most South Carolina farmers are well-off financially.			Most South Carolina farmers are supported by federal farm subsidies		
			True	False	Uncertain
22%	True	n=73	55%	27%	18%
58	False	n=193	27	56	17
20	Uncertain	n=69	13	26	61
100%	Total	n=335	30%	44%	26%

Interpretation. Adults perceiving most South Carolina farmers to be well-off financially more often reported the farmers to be supported by federal farm subsidies than did those adults who were uncertain about the farmers' financial well-being.

Women versus Men

While significant differences in perceptions of consumers in different **age** groups were **not** found, the data in Tables 1 and 2 reveal substantial differences in the beliefs and attitudes of women versus men. In the responses to questions 1 and 2 in Table 1, greater proportions of men than women perceived the revenue earned by the South Carolina farm industry to be greater than the revenues earned by the South Carolina textile and tourism industries.

A greater proportion of men than women believed that the average farmer's personal income was higher than the average personal income earned by persons in other South Carolina occupations (question 6, Table 1). The majority of men but **not** women were in favor of increasing farm exports to foreign countries (question 8, Table 1). More women than men (69 percent v. 54 percent) favored federal and state relief funds to farmers to

cover losses from the 1980 drought. However, neither women nor men perceived farmers to be the party primarily responsible for the increases in their food costs. Rather, most saw the manufacturer/processor or wholesaler/distributor in such a role. See Table 1, question 11, for details.

More women (82 percent) than men (70 percent) did **not** believe American families spent less money for food as a percentage of their incomes in 1980 versus 1960 (Table 2, question 5). The majority of men (61 percent) but **not** women (48 percent) believed that American families spent less money for food as a percentage of their income than families in Western Europe (Table 2, question 7). The more negative beliefs of women may have been a reflection of their higher frequencies of grocery shopping and recall of price increases.

IMPLICATIONS

Consumer perceptions of an industry's contributions to a state's revenue, employment, and productivity may differ sharply from reality. Such differences may adversely affect public support for industrial growth and government relief in periods of emergencies.

Annual "tracking studies" of consumer beliefs and attitudes should be performed to gauge the public climate for each major industry in South Carolina. Marketing and publicity programs are recommended to improve the public climate when consumer perceptions differ from reality.

Needed changes in industry practices as perceived by the state's citizens also can be learned from such tracking studies. Comparisons in consumer perceptions of responses from one year to the next can be made from such research to indicate if improvements in an industry's public climate have occurred.

The increases in farm productivity and product quality and the lowering of food costs as a percentage of family income are **not** perceived by substantial proportions of adults in South Carolina — especially females. The majority of women do not realize that farming is among the top four South Carolina industries in dollar revenue. Public information and marketing programs by the agricultural industry may be needed to change these misperceptions.

Division of Research Announces Latest Publication

OCCASIONAL STUDY #14

NOW ACCOUNTS AND OTHER FINANCIAL SERVICES: Household Attitudes and Practices

By Dr. F. Jerry Ingram, Dr. Olin S. Pugh, and Mrs. Sandra J. Teel

This monograph summarizes the data developed from two surveys of the USC Consumer Panel (a scientifically developed representative sample of households in South and North Carolina).

The first survey addressed household uses of financial services including such innovations as automated teller machines, direct deposits, and preauthorized payments, among others. The second focused on household adoption of the new interest paying checking accounts called NOWs. The findings are reported by demographic characteristics and are compared with an earlier study on the same general topic (OCCASIONAL STUDY No. 12, July 1977, Ingram and Pugh) and other studies.

OCCASIONAL STUDY No. 14 is a joint project of the Chair of Banking Program and the Division of Research of the USC College of Business Administration.

Single copies of the above publication will be available, free of charge, upon request AFTER November 1, 1981.

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By Dwight Gardner, Business Librarian, M.B.A., M.S.L.S.

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BASICS OF SUCCESSFUL PLANNING
by William R. Osgood
AMACOM
135 W. 50th St.
New York, N.Y. 10020
1980, 265 pp., $21.95

The author of this book provides the reader with both a step-by-step introduction to the planning process and the general background for the history and philosophy of planning. This volume should be of particular interest to those contemplating starting new businesses.

THE LEASE/BUY DECISION: A SIMPLIFIED GUIDE TO MAXIMIZING FINANCIAL AND TAX ADVANTAGES IN THE 1980's
by Pieter T. Elgers and John J. Clark
Free Press
200 D Brown St.
Riverside, N.J. 08370
1980, 200 pp., $16.95

This book is aimed at those managers who must make decisions on leasing, buying, or selling business assets. In non-technical language the authors describe the fundamentals of leasing, rental agreements, and tax considerations, and the advantages and disadvantages for both the lessor and the lessee.

ON A CLEAR DAY YOU CAN SEE GENERAL MOTORS
by J. Patrick Wright
Wright Enterprises
Grosse Pointe, Mich. 48236
1980, 237 pp., $12.95

On a Clear Day . . . is a controversial account of the inner workings of General Motors corporate headquarters. In addition to the insider executive gossip, which is fascinating in itself, the reader receives a valuable lesson in organizational strengths and weakneses.

BOARD COMPASS: WHAT IT MEANS TO BE A DIRECTOR IN A CHANGING WORLD
by Robert Kirk Mueller
D.C. Heath and Co.
125 Spring St.
Lexington, Mass. 02173
1979, 192 pp., $20.50

The purpose of this book is to aid corporate directors in more fully understanding the future directions of the board and the changing aspects of the directorial role. Mueller discusses the need for adapting corporate governance to meet the challenges of the ever changing business environment and the growing influence of the public and the government on corporate affairs.

FRANCHISING: ITS NATURE, SCOPE, ADVANTAGES, AND DEVELOPMENT
(Second and Revised Edition)
by Charles L. Vaughn
Lexington Books
Division of D.C. Heath and Co.
125 Spring St.
Lexington, MA 02173
1979, 304 pp., $21.95

This practical guide to franchising covers the entire process, from how to start up an operation, to recruitment of trainees and financial arrangements. It should be of interest to both the potential franchiser and the potential franchisee.

CORPORATIONS AND THEIR CRITICS
Edited by Thorton Bradshaw and David Vogel
McGraw-Hill Book Co.
1221 Ave. of the Americas
New York, NY 10020
1980, 285 pp., $14.95

This work examines the corporate social responsibility movement from the viewpoints of the corporate critic and the corporate executive.

* * *

Readers are invited to submit titles of books that they wish to call to the attention of others.

STATISTICAL INDICATORS OF SOUTH CAROLINA BUSINESS

ITEMS	May 1981	May 1980	Latest Month Percentage Change from Year Ago
Deposits, Member Banks ($ millions)	NA	$ 3,141	—
Demand	NA	1,637	—
Time	NA	1,504	—
Loans, Member Banks ($ millions)	NA	2,160	—
Savings in Savings and Loan Associations ($ millions)[b]	5,632.4	5,194.1	+ 8.4
Sales and Use Tax Collections ($ thousands)	55,703.5	50,819.4	+ 9.6
Labor Market:			
Civilian Labor Force (thousands)	1,338.2	1,310.1	+ 2.1
Employment	1,242.8	1,226.6	+ 1.3
Rate of Unemployment (percentage)[c]	7.1	6.4	+ 10.9
Nonfarm Wage and Salary Employment (in thousands)[c]	1,194.7	1,199.1	- 0.4
Manufacturing[c]	386.3	396.0	- 2.4
Contract Construction[c]	70.9	73.8	- 3.9
Transportation and Public Utilities[c]	54.5	52.7	+ 3.4
Wholesale and Retail Trade[c]	227.0	224.8	+ 1.0
Finance, Insurance, and Real Estate[c]	48.7	47.7	+ 2.1
Services, Mining, and Miscellaneous[c]	214.2	210.2	+ 1.9
Government[c]	241.8	241.6	a
Average Hourly Earnings, All Manufacturing (in dollars)	$ 6.03	$ 5.45	+ 10.6
Initial Unemployment Claims Filed in South Carolina	24,278	31,934	- 24.0
Placements by South Carolina Employment Offices (nonagricultural)	5,418	5,666	- 4.4
Indexes of Prices Received by Farmers (1966-68=100)			
All Farm Products	221	207	+ 6.8
All Crops	244	232	+ 5.2
Livestock and Products	207	187	+ 10.7
S.C. Parity Ratio	72	75	- 4.0
New Motor Vehicle Registrations			
Cars	7,873	7,979	- 1.3
Trucks	2,391	2,241	+ 6.7

	May 1981	May 1980	First 5 Months 1981	First 5 Months 1980	First 5 Months Percentage Change
Valuation of Building Permits Issued ($ millions)[d]					
Total for all S.C. Counties	$138.7	$139.3	$ 668.6	$ 682.6	- 2.1
Available County Data					
Aiken	1.7	1.9	14.5	8.6	+68.6
Berkeley	1.8	6.0	15.8	33.3	-52.6
Charleston	13.2	10.8	80.6	75.1	+ 7.3
Dorchester	2.0	3.3	13.2	14.0	- 5.7
Lexington	3.8	4.8	15.9	33.4	-52.4
Richland	12.7	16.8	55.3	49.1	+12.6
Greenville	14.5	14.6	72.8	79.1	- 8.0
Pickens	5.4	4.2	17.5	27.3	-35.9
Spartanburg	9.0	6.4	56.8	30.5	+86.2

[a]Less than one-half of 1 percent.

[b]Due to the termination of certain data series by the Federal Reserve Bank of Richmond, this series has been replaced by the Federal Home Loan Bank of Atlanta.

[c]Ibid., the South Carolina Employment Security Commission.

[d]Note: These amounts are now being reported in millions of dollars instead of thousands of dollars.

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